



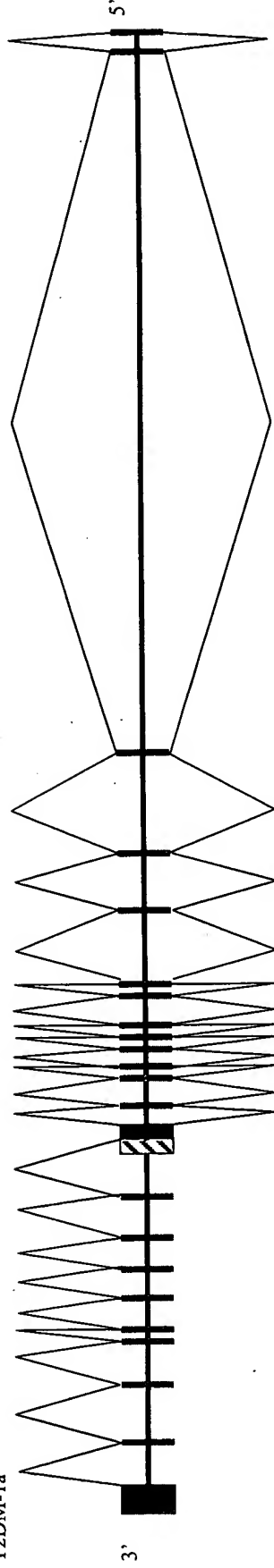
FIG. 1A

T2DM-1

Exons:

23 22 21 20 19 18 17 16 15 14 13 12 - 8 7 6 5 4 3

T2DM-1a



T2DM-2

Exons:

1 2 3 4

T2DM-2a



C) SNP Map

snp1 snp2

snp3 snp4

snp5 snp6 snp7 snp8 snp9 snp10

snp11 snp12

snp13

snp14

FIG. 1B

T2DM-1a: 4211 basepairs (long form, exons 1-24) (SEQ ID NO:1)

AAATCAGATGCTCTGTGATTAATCGTGGAGGATT CAGGACACGACCACAAACGCTGCCAGATAAGAGTCC
CGGCTGCATTATCAGAGCCCCGGCAGGGCACCGGCCTCCCTGCACCAGAAGGAAGACTCGGGGCGCAGCAG
GTCCTCAAGGCGATCTTCCCAGAGAGCGGGACCAGCGGCTGGTGGCCAGTGTGGATGGAATTTGCAGAGC
CCTAGCTCGAGTCCGGGAGTCCCGGGCCAGATGGGAGCAGACGCTTGCTGGCGGCAATAGGGAAAGTGAG
GCAGCTGCAAGGAGGGCGGCGGACTGCACTCGAGTGTCCAGACCTGCTCGATGGTGACCACCATGTCCGG
TGAGGTTGCGGTTCCCTGTCCCCCTGGGGACACAGGGGCCGTGGGGGTTCGTGGGCCGGAGCGCCTCCTTCGC
AGGCTTCAGCAGTGCACAGAGCCGGAGGATCGCAAAGTCCATCAACAGGAACCTCCGTGAGATCGCGAATG
CCTGCAAAATCCTCCAAGATGTACGGCACGCTGCGGAAGGGGTTCGGTCTGTGTCAGACCCGAAGCCCCAGC
AGGTGAAGAAGATCTTCAAGCATTGAAAAGAGGCCTCAAGGAGTATCTGTGTGTGTCAGCAGGCTGAGCT
GGACCACCTGTCTGGACGCCACAAAGACACCAGGAGGAATTCAGGCTGGCTTTCTATTATGACCTGGAC
AAGCAAACGCGCTGTGTGAAAGGCACATTTCGGAAGATGGAGTTTACATCAGCAAGGTGGATGAGCTGT
ACGAGGACTACTGCATCCAGTGCCGCTGCGCGACGGCGCCTCCAGCATGCAGCGGGCCTTCGCCCCGGTG
CCCCCGAGCCGCGCAGCCCCGAGAGAGCCTGCAGGAGCTGGGCGCAGCCTGCACGAGTGCGCCGAGGAC
ATGTGGCTCATCGAGGGGGCCCTGGAGGTTACCTGGGCGAGTTCCACATCAGGATGAAAGGCTTGGTGG
GCTACGCACGCCTCTGTCCCGGAGACCACTATGAGGTGCTCATGCGTCTGGGCGCCAGCGTTGGAAGCT
CAAGGGTTCGGATCGAGTCAGATGACAGCCAGACCTGGGACGAAGAGGAGAAGGCCTTCATCCCCACGCTG
CATGAGAACCTGGACATCAAGGTGACGGAGTTGCGGGGCTGGGCTCGCTGGCTGTGGGTGCAGTGACGT
GTGACATCGCCGACTTCTTCACGACGCGGCCGAGGTCATCGTGGTGGACATCACGGAGTTGGGTACCAT
CAAGCTGCAGCTGGAGGTGCAGTGGAACCCGTTTGATACTGAGAGCTTCCCTGGTGTACCCAGCCCCACG
GGCAAGTTTTCTATGGGCAGCAGGAAGGGCTCCTTGTAACAACCTGGACACCCCCGAGCACCCCCAGCTTCC
GGGAGAGATACTACCTGTCTGTCTACAGCAGCCAACACAGCAGGCCTTGCTGCTGGGTGGCCCAAGGGC
CACCTCCATCCTCAGCTACCTGTCTGACAGCGACCTCCGGGGTCCAGCCTAAGAAGCCAGAGTCAGGAG
CTGCCTGAGATGGACTCCTTCAGCTCTGAGGACCCCCGAGACACGGAGACCAGCACGTCCGGCTCCACCT
CAGATGTGGGCTTCCCTGCCCTTGACCTTCGGTCCCCACGCCTCCATTGAAGAGGAGGCTCGGGAGGACCC
CCTGCCCCCAGGTCTCCTGCCAGAGATGGCCACCTCTCTGGAGGCCCGTTTGTCAGAGCAGCCTGGCTGG
AGGAACTTAGGAGGGGAGAGCCCCAGCCTGCCACAGGGCTCCCTGTTCCACAGCGGCACAGCCTCGAGTA
GCCAGAACGGCCACGAGGAAGGGGCAACCGGGGACAGAGAGGACGGGCCTGGCGTGGCCCTCGAGGGGGCC
TCTGCAGGAGGTCTGGAGTTGCTGAGGCCACGGACTCCACCCAGCCCCAGCTCCGGGAGCTGGAGTAC
CAGGTCTCGGCTTCCGGGACCGGCTGAAGCCCTGCAGAGCACGGCAGGAGCACACCTCGGCCGAGAGCC
TGATGGAGTGCATCCTGGAGAGCTTCGCCTTCCCTCAATGCCGACTTCGCCCTGGATGAGCTGTCCCTGTT
TGGGGGCTCCCAGGGTCTCCGAAAGGACCGGCCCTGCCCCCACCCTCATCACTGAAAGCGTCATCCAGG
GAACTCACAGCCGGTGCCCCAGAGCTGGACGTGCTGCTGATGGTACACCTCCAAGTCTGCAAAGCTCTGC
TGCAGAAACTGGCCTCCCTAATTTATCAAGGCTGGTCCAGGAATGCCTCCTGGAAGAAGTGGCACAGCA
AAAGCACGTTCTGGAGACACTTTCTGTCTTGACTTTGAGAAGGTTCGGCAAGGCAACATCCATTGAAGAG
ATCATCCACAGGCCTCGCGACGAAGGGGTGCCTGAAGCTGTGGAGAGGGTGCACAGGGCCTGGCAGGG
TCCTGTCTGCCCTGCCACGACGCTGCTGAACCAGCTCAAGAAAACCTTCCAGCACAGAGTCAGAGGGAA
GTACCCAGGACAGCTGGAAATAGCGTGCCGACGGCTCCTGGAGCAGGTGGTCACTGTGGTGGGCTGCTC
CCCGGAGCTGGGCTCCAGAAGAACAGATCATTACCTGGTTCCAGTTTACAGCTACCTGCAGAGGCAGA
GCGTCTCTGACCTGGAGAAGCACTTACCCAGCTCACCAGGAAGTGACACTCATCGAGGAGCTTCACTG
TGCGGGACAGGCCAAGGTGGTCCGGAAGCTGCAGGGGAAGCGGCTGGGCCAGCTCCAGCCTCTGCCCCAG
ACCTTAAGAGCCTGGGCGCTGCTCCAGCTGGACGGCACTCCGAGGGTGTGCAGGGCGGCCAGCGCTCGCC
TGGCTGGTGCAGTCAGGAACAGAAGCTTCCGGGAAAAGGCTTTGCTGTTCTACCAACGCCCTGGCAGA
GAACGACGCAAGGCTCCAGCAGGCCGCATGCCTAGCGCTCAAACACCTCAAGGGCATTGAAAGCATCGAC
CAGACTGCCAGCCTGTGCCAGTCTGACCTGGAGGCCGTGCGGGCGGCAGCCCGGAAACCACTGTCTGT
TCGGTGAAAAAGGACGGTTAGCTTTTGAGAAGATGGACAAGCTCTGCTCAGAACAAAGAGAAGTCTTTTG
CCAGGAGGCAGATGTTGAAATCACAATATTTTAAAAAATCCTGGCTGATGAGCACAAATCTCACATCGTT
TTTTTTGCTGCTGCCAGCCTGGACATAGCCTGCACTCTGGGTAATGGTGTGCTGCACTCCTCCAGGAGT
GTGAGCTGCCAGAGCTCTACCTGAGACTCCGGCCATTGACCCAGCCCCAGGGCATGGGCTGGTCTTTTG
TACAGAGGCAGAAAAAGCAAGGCAAGGTACAGCATTCCAGGGCTGCACGGCCTCAACAGAGCGCTCA
ACTTCTGGCTGAGGGTCTGTGTGACCTTCCCGAGATGCAGAGCTGAGCCAAACTAGGTGGCCACCTACA

FIG. 2A

AAAGGGCCAAGGCCAGGCAAGTTGAGGCCCTAAATAAAAGGCTCCAAGGCAAGTGTGTAGAACTCCAGGC
 CTCGCTGCCGGTCAGCTGCTCGGCACTTCTGCGTCAAGAGGCACTGGGGATGCAGCAGGCTGGCAGGTGG
 CTGGCCCTGCTAATGCAAGACTGCTCAGGCCATTTAGCAGCAGCCAGGTGTCACCTTGGTGAGCTGGGG
 AAGGTGGGAAGGCACAAAGCCAGGGTTTCTACAACCACACTCTCAGCCCGACTGACTTGCTGCGAGTGCT
 GGTGGAGCTCACAGACGGCGGCTGGTGGATGGTGGACTGTGAACCTCACTTTCCCTATGTTTCAGCAGCAC
 AAAGGGAAGAAGCCACCACATCAGCCCAGGAGCCCTGAGCAGCACAGGCAGTAGGGCCACTCACTTTGGC
 CATCCGCACCCAAATGCAATCAATCAACCCAGCTTCGGAAGCTACCCTAGGATCTCGTCAATAAACTGCT
 AAGAAGCCATCAACTGGCCTAAAGAAAGAGTTCACTGAAGAACGCAATTGCTTTAAAGAAAGAAAAATTA
 GTTTCCTATTTAAGTCTTAAAAAAAAGCAAACCATGTCTGAGATGTCTGTGTTAATAGTGCAGAGAGAA
 CCTAGGGTTTGAGGTGCTGTAGCAATGGCATTTGAGAAGCTTTAACTTGAACATTCTCATCGATACTTCC
 TGGACATATTT

T2DM-1a: 946 amino acids (long form, exons 1-24) (SEQ ID NO:2)

M S V R L R F L S P G D T G A V G V V G R S A S F A G F S S A Q S R R
 I A K S I N R N S V R S R M P A K S S K M Y G T L R K G S V C A D P K
 P Q Q V K K I F E A L K R G L K E Y L C V Q Q A E L D H L S G R H K D
 T R R N S R L A F Y Y D L D K Q T R C V E R H I R K M E F H I S K V D
 E L Y E D Y C I Q C R L R D G A S S M Q R A F A R C P P S R A A R E S
 L Q E L G R S L H E C A E D M W L I E G A L E V H L G E F H I R M K G
 L V G Y A R L C P G D H Y E V L M R L G R Q R W K L K G R I E S D D S
 Q T W D E E E K A F I P T L H E N L D I K V T E L R G L G S L A V G A
 V T C D I A D F F T T R P Q V I V V D I T E L G T I K L Q L E V Q W N
 P F D T E S F L V S P S P T G K F S M G S R K G S L Y N W T P P S T P
 S F R E R Y Y L S V L Q Q P T Q Q A L L L G G P R A T S I L S Y L S D
 S D L R G P S L R S Q S Q E L P E M D S F S S E D P R D T E T S T S A
 S T S D V G F L P L T F G P H A S I E E E A R E D P L P P G L L P E M
 A H L S G G P F A E Q P G W R N L G G E S P S L P Q G S L F H S G T A
 S S S Q N G H E E G A T G D R E D G P G V A L E G P L Q E V L E L L R
 P T D S T Q P Q L R E L E Y Q V L G F R D R L K P C R A R Q E H T S A
 E S L M E C I L E S F A F L N A D F A L D E L S L F G G S Q G L R K D
 R P L P P P S S L K A S S R E L T A G A P E L D V L L M V H L Q V C K
 A L L Q K L A S P N L S R L V Q E C L L E E V A Q Q K H V L E T L S V
 L D F E K V G K A T S I E E I I P Q A S R T K G C L K L W R G C T G P
 G R V L S C P A T T L L N Q L K K T F Q H R V R G K Y P G Q L E I A C
 R R L L E Q V V S C G G L L P G A G L P E E Q I I T W F Q F H S Y L Q
 R Q S V S D L E K H F T Q L T K E V T L I E E L H C A G Q A K V V R K
 L Q G K R L G Q L Q P L P Q T L R A W A L L Q L D G T P R V C R A A S
 A R L A G A V R N R S F R E K A L L F Y T N A L A E N D A R L Q Q A A
 C L A L K H L K G I E S I D Q T A S L C Q S D L E A V R A A A R E T T
 L S F G E K G R L A F E K M D K L C S E Q R E V F C Q E A D V E I T I
 F*

T2DM-1b: 2278 basepairs (short form, exons 1-14) (SEQ ID NO:3)

AAATCAGATGCTCTGTGATTAATCGTGGAGGATTAGGACACGACCACAAACGCTGCCAGATAAGAGTCC
 CGGCTGCATTATCAGAGCCCGGCAGGGCACCAGGCTCCCTGCACCAGAAGGAAGACTCGGGGCGCAGCAG
 GTCCTCAAGGCGATCTTCCAGAGAGCGGGACCAGCGGCTGGTGGCCAGTGTGGATGGAATTTGCAGAGC
 CCTAGCTCGAGTCCGGGAGTCCCGGGCCAGATGGGAGCAGACGCTTGCTGGCGGCAATAGGGAAAGTGAG
 GCAGCTGCAAGGAGGGCGGGCGGACTGCACTCGAGTGTCCAGACCTGCTCGATGGTGACCACCATGTCGG
 TGAGGTTGCGGTTCTGTCCCCTGGGGACACAGGGGCCGTGGGGTCTGGGGCCGGAGCGCCTCCTTCGC

FIG. 2B

AGGCTTCAGCAGTGCACAGAGCCGAGGATCGCAAAGTCCATCAACAGGAACTCCGTGAGATCGCGAATG
 CCTGCAAAATCCTCCAAGATGTACGGCACGCTGCGGAAGGGGTCTGTGTGAGACCCGAAGCCCCAGC
 AGGTGAAGAAGATCTTCGAAGCATTGAAAAGAGGCCTCAAGGAGTATCTGTGTGTGAGCAGGCTGAGCT
 GGACCACCTGTCTGGACGCCACAAAGACACCAGGAGGAATTCCAGGCTGGCTTTCTATTATGACCTGGAC
 AAGCAAACGCGCTGTGTGGAAAGGCACATTTCGGAAGATGGAGTTTACATCAGCAAGGTGGATGAGCTGT
 ACGAGGACTACTGCATCCAGTGCCGCCTGCGCGACGGCGCCTCCAGCATGCAGCGGGCCTTCGCCCCGGTG
 CCCCCCGAGCCGCGCAGCCCCGAGAGAGCCTGCAGGAGCTGGGCGCAGCCTGCACGAGTGCGCCGAGGAC
 ATGTGGCTCATCGAGGGGGCCCTGGAGGTTACCTGGGCGAGTTCCACATCAGGATGAAAGGCTTGGTGG
 GCTACGCACGCCTCTGTCCCGAGACCACTATGAGGTGCTCATGCGTCTGGGCGGCCAGCGTTGGAAGCT
 CAAGGGTCGGATCGAGTCAGATGACAGCCAGACCTGGGACGAAGAGGAGAAGGCCTTCATCCCCACGCTG
 CATGAGAACCTGGACATCAAGGTGACGGAGTTGCGGGGCTGGGCTCGCTGGCTGTGGGTGAGTGACGT
 GTGACATCGCCGACTTCTTCACGACGCGGCCGAGGTTCATCGTGGTGGACATCACGGAGTTGGGTACCAT
 CAAGCTGCAGCTGGAGGTGAGTGAACCCGTTTGATACTGAGAGCTTCCTGGTGTACCCAGCCCCACG
 GGCAAGTTTTCTATGGGCAGCAGGAAGGGCTCCTTGTAACACTGGACACCCCCGAGCACCCCCAGCTTCC
 GGGAGAGATACTACCTGTCTGTCTACAGCAGCCAACACAGCAGGCCTTGCTGTGGGTGGCCCAAGGGC
 CACCTCCATCCTCAGCTACCTGTCTGACAGCGACCTCCGGGGTCCCAGCCTAAGAAGCCAGAGTCAGGAG
 CTGCCTGAGATGGACTCCTTCAGCTCTGAGGACCCCCGAGACACGGAGACCAGCACGTCCGGCGTCCACCT
 CAGATGTGGGCTTCTGCCCCCTGACCTTCGGTCCCCACGCCTCCATTGAAGAGGAGGCTCGGGAGGACCC
 CCTGCCCCCAGGTCTCCTGCCAGAGATGGCCCACCTCTCTGGAGGCCCCGTTTGCAGAGCAGCCTGGCTGG
 AGGAACTTAGGAGGGGAGAGCCCCAGCCTGCCACAGGGCTCCCTGTTCCACAGCGGCACAGCCTCGAGTA
 GCCAGAACGGCCACGAGGAAGGGGCAACCGGGACAGAGAGGACGGGCGCTGGCGTGGCCCTCGAGGGGCC
 TCTGCAGGAGGTCTCGAGTTGCTGAGGCCACGGACTCCACCCAGCCCCAGCTCCGGGAGCTGGAGTAC
 CAGGTCTCGGCTTCCGGGACCGGCTGAAGGTATGGCCACCCCGCCCCGGGCGGTGGCCCTGCTTTGCTG
 ATGGCATGATGACTGGGAGTCGGGGGCTCTGGGGCCACGCAGCCTGGGCGGACATCCTGGCCTCACCTCT
 GCGTGACCTGGGTGGGCGGTGTCTCTTGGGCCTTGGTTTCCTCATCTGGCAAGCGGGGATAACAACAGC
 CCTCATGGGGCTCAGGAAGATTTTAAGAGTTCACAGTAGATAGGCTCATGCACATCCAGCCAGAACTGG
 CCCCATCTCGACCTTCTGACCTGGGTGGGCGGGGCTG

T2DM-1b: 625 amino acids (short form, exons 1-14) (SEQ ID NO:4)

M S V R L R F L S P G D T G A V G V V G R S A S F A G F S S A Q S R R
 I A K S I N R N S V R S R M P A K S S K M Y G T L R K G S V C A D P K
 P Q Q V K K I F E A L K R G L K E Y L C V Q Q A E L D H L S G R H K D
 T R R N S R L A F Y Y D L D K Q T R C V E R H I R K M E F H I S K V D
 E L Y E D Y C I Q C R L R D G A S S M Q R A F A R C P P S R A A R E S
 L Q E L G R S L H E C A E D M W L I E G A L E V H L G E F H I R M K G
 L V G Y A R L C P G D H Y E V L M R L G R Q R W K L K G R I E S D D S
 Q T W D E E E K A F I P T L H E N L D I K V T E L R G L G S L A V G A
 V T C D I A D F F T T R P Q V I V V D I T E L G T I K L Q L E V Q W N
 P F D T E S F L V S P S P T G K F S M G S R K G S L Y N W T P P S T P
 S F R E R Y Y L S V L Q Q P T Q Q A L L L G G P R A T S I L S Y L S D
 S D L R G P S L R S Q S Q E L P E M D S F S S E D P R D T E T S T S A
 S T S D V G F L P L T F G P H A S I E E E A R E D P L P P G L L P E M
 A H L S G G P F A E Q P G W R N L G G E S P S L P Q G S L F H S G T A
 S S S Q N G H E E G A T G D R E D G P G V A L E G P L Q E V L E L L R
 P T D S T Q P Q L R E L E Y Q V L G F R D R L K V W P P R P G R W P C
 F A D G M M T G S R G L W G H A A W A D I L A S P L R D L G G P C L S
 G P W F P H L A S G D N N S P H G A Q E D F K S S Q

FIG. 2C

T2DM-2a: 828 basepairs (long form, exons 1-4) (SEQ ID NO:5)

GGAGAGGAAGCCAGATGCTCCCAGACACTGGGGACTGTCTGGGCCTCCGTCCCCAAGGTGTGGCTGGAG
GAAGCAGAGTCTACTCCCGCTAAGTCTGTCCGCTCACTGCTGGCCAAAGCTGCCCTGCGTCTCCTCCCCA
CCGCCAGCCAGAGGGAACCTGCAATTTACCTCATTTAGAGCATCCGGAGCCCAGGACTGCTCAGTCAAC
CCTCTGGAATGCCCACAACCTCCCCACAGGCCAGCCGGCCTTGGGACTCCCGCACAGCCACGTGAGCCGGT
GGAGCCGGGTCTGTTTGCTAGTGGAGGCTGTTAACAGCACGGGAAGTGGTCAAGGGTTCAACAAGAGATG
AGCCATCTGGTCTCTCCAGAGGTTGTGACTTCAATATACCTCTCATGAGACCTTTCTGGCCCCCTTATCT
GTGGAGGAGGCACGTGACCCACATGGTCTGGCCACTGATGACTGAACAAGCTATGGACACCGGACCCCGG
AGAGACCATTCACTCACTGGCCACGAACATGAGTTCAGATACATGCCCCAAAAGGATGAGCCTGGGTACT
GGATTCCTCCCTCAGAAACGTGAATCAAGAGACACAGGATGTTCTGTTGGTCCAGATACTTGAGCTAA
AAGGTGATGGATACCTGGATGTGGGGTGGTCTATTCTGGGGAGTACGTCCATATAGAAAGAGGAGCAGGTG
CTGTGGGATTCTGGATCCAGTGATAGAGCTAAGTGGCTGGATCAAGCTTCACCTGAAACCCACTCTACT
TGTCTTAGTCCATTTTGTGTTGCTATAAAAGAATACCTGCAACTGGGTAATGTATAAA

T2DM-2b: 597 basepairs (short form, exons 2 & 4) (SEQ ID NO:6)

CATCCGGAGCCCAGGACTGCTCAGTCAACCTCTGGAATGCCCACAACCTCCCCACAGGCCAGCCGGCCTT
GGGACTCCCGCACAGCCACGTGAGCCGGTGGAGCCGGGTCTGTTTGCTAGTGGAGGCTGTTAACAGCACG
GGAAGTGGTCAAGGGTTCAACAAGAGATGAGCCATCTGGTCTCTCCAGAGGTGGAGGAGGCACGTGACCCA
CATGGTCTGGCCACTGATGACTGAACAAGCTATGGACACCGGACCCCGGAGAGACCATTCACTCACTGGC
CACGAACATGAGTTCAGATACATGCCCCAAAAGGATGAGCCTGGGTACTGGATTCCCTCCCTCAGAAACG
TGAATCAAGAGACACAGGATGTTCTGTTGGTCCAGATACTTGAGCTAAAAGGTGATGGATACCTGGATG
TGGGGTGGTCATTCTGGGGAGTACGTCCATATAGAAAGAGGAGCAGGTGCTGTGGGATTCTGGATCCCAG
TGATAGAGCTAAGTGGCTGGATCAAGCTTCACCTGAAACCCACTCTACTTGTCTTAGTCCATTTTGTGTT
GCTATAAAAGAATACCTGCAACTGGGTAATGTATAAA

FIG. 2D

Gene Organization:

T2DM-1a				
Exon	Begins cDNA	Ends cDNA	Begins Genomic*	Ends Genomic*
1	1	55	49036730	49036676
2	56	334	49036419	49036141
3	335	453	48975871	48975753
4	454	600	48965147	48965001
5	601	679	48961095	48961017
6	680	703	48956219	48956196
7	704	757	48955921	48955868
8	758	907	48954737	48954588
9	908	971	48954371	48954308
10	972	1141	48953970	48953628
12	1142	1287	48953549	48953404
13	1288	1417	48949789	48949660
14	1418	1990	48947659	48947087
15	1991	2121	48942725	48942595
16	2122	2245	48941278	48941155
17	2246	2381	48940519	48940384
18	2382	2543	48939729	48939568
19	2544	2705	48938211	48938050
20	2706	2908	48937561	48937359
21	2909	2992	48934784	48934701
22	2993	3083	48932907	48932817
23	3084	4211	48932347	48931220

*Genomic positions correspond to the Build 29 human genome assembly from NCBI (UCSC version hg11)

FIG. 3A

T2DM-1b				
Exon	Begins cDNA	Ends cDNA	Begins Genomic*	Ends Genomic*
1	1	55	49036730	49036676
2	56	334	49036419	49036141
3	335	453	48975871	48975753
4	454	600	48965147	48965001
5	601	679	48961095	48961017
6	680	703	48956219	48956196
7	704	757	48955921	48955868
8	758	907	48954737	48954588
9	908	971	48954371	48954308
10	972	1141	48953970	48953628
12	1142	1287	48953549	48953404
13	1288	1417	48949789	48949660
14	1418	2278	48947659	48946799

*Genomic positions correspond to the Build 29 human genome assembly from NCBI (UCSC version hg11)

FIG. 3B

Gene Organization:

T2DM-2a					
Exon	Begins cDNA	Ends cDNA	Begins Genomic*	Ends Genomic*	
1	1	181	48981701	48981881	
2	182	370	48990713	48990901	
3	371	420	48998961	48999010	
4	421	828	49004881	49005288	

*Genomic positions correspond to the Build 29 human genome assembly from NCBI (UCSC version hg11)

T2DM-2b					
Exon	Begins cDNA	Ends cDNA	Begins Genomic*	Ends Genomic*	
1	1	189	48990713	48990901	
2	190	597	49004881	49005288	

*Genomic positions correspond to the Build 29 human genome assembly from NCBI (UCSC version hg11)

FIG. 3C

SNP1

-TTGA (IN/DEL)

TCAAACCCTAGGTTCTCTCTGCACTATTAACACAGACATCTCAGGACATGGTTTGCTTTT
TTTTAAGACTTAAATAGGAACTAATTTTTCTTTCTTTAAAGCAATTGCGTTCTTCAGTG
AACTCTTTCTTTAGGCCAGTTGATGGCTTCTTAGCAGTTTATTGACGAGATCCTAGGGTA
GCTTCCGAAGCTGGGTTGATTGATTGCATTTGGGTGCGGATGGCCAAAGTGAGTGGCCCT
ACTGCCTGTGCTGCTCAGGGCTCCTGGGCTGATGTGGTGGCTTCTTCCCTTTGTGCTGCT
GAACATAGGGAAAGTGAGGTTACAGTCCACCATCCACCAGCCGCCGTCTGTGAGCTCCA
CCAGCACTCGCAGCAAGTCAGTCGGGCTGAGAGTGTGGTTGTA (SEQ ID NO:9)

TCAAACCCTAGGTTCTCTCTGCACTATTAACACAGACATCTCAGGACATGGTTTGCTTTT
TTTTAAGACTTAAATAGGAACTAATTTTTCTTTCTTTAAAGCAATTGCGTTCTTCAGTG
AACTCTTTCTTTAGGCCAGTTGATGGCTTCTTAGCAGTTTATTGACGAGATCCTAGGGTA
GCTTCCGAAGCTGGGTTGATTGCATTTGGGTGCGGATGGCCAAAGTGAGTGGCCCTACTG
CCTGTGCTGCTCAGGGCTCCTGGGCTGATGTGGTGGCTTCTTCCCTTTGTGCTGCTGAAC
ATAGGGAAAGTGAGGTTACAGTCCACCATCCACCAGCCGCCGTCTGTGAGCTCCACCAG
CACTCGCAGCAAGTCAGTCGGGCTGAGAGTGTGGTTGTA (SEQ ID NO:10)

SNP2

A/G

CCTAACCAGCTTCTCCTCTTAGAATTTCTGCTGATCCATCCCAGAATGAATGGGAGTTC
AATCTGTACTGAATTATCTTTCATCTAGCAATTGTGCAATTCCAAATGCAGGTGAGGTTG
AGGGAAAGCGGGCATCCCCTCACATCCATGGGATCTATGTGTGGGTTGTATCAAGAGTCT
CAAAAATGCTCATATTCTCCAGTCTTAGAATTGGGTCTAGCCTAAGGAAATAATTCAGAA
CTCCATGTTTTTTTTAAAGCTTTATGCACAAACATGATCATAAGACATGATTTATGATAAA
AATTGGATGAAGTAACTTTTCCTATGAAAGCAGCTGAGTAGGTTAAATTAAGGTATACAC
TTGATAGCCCCTTCATAAAGAATTCTCAAGTGAAAAAAAAA (SEQ ID NO:11)

CCTAACCAGCTTCTCCTCTTAGAATTTCTGCTGATCCATCCCAGAATGAATGGGAGTTC
AATCTGTACTGAATTATCTTTCATCTAGCAATTGTGCAATTCCAAATGCAGGTGAGGTTG
AGGGAAAGCGGGCATCCCCTCACATCCATGGGATCTATGTGTGGGTTGTATCAAGAGTCT
CAAAAATGCTCATATTCTCCGGTCTTAGAATTGGGTCTAGCCTAAGGAAATAATTCAGAA
CTCCATGTTTTTTTTAAAGCTTTATGCACAAACATGATCATAAGACATGATTTATGATAAA
AATTGGATGAAGTAACTTTTCCTATGAAAGCAGCTGAGTAGGTTAAATTAAGGTATACAC
TTGATAGCCCCTTCATAAAGAATTCTCAAGTGAAAAAAAAA (SEQ ID NO:12)

FIG. 4A

SNP3

A/G

CACCTGCAGTCCCCACAACAACCTGGGAGGGGCTGCTGTCACCAGCCTCTCCTTACAGAC
AAGGAACCTGGCCTTCTGAGGGGAGGTCCACGGGGCAGAGGCACAGCTGGGATCACAGC
TACTGTTTGACGGCACATTCTGCACCTTGAATGTGGCCTGGGGTTACCTCACTGAACCCC
GTGCAGTGCCCTCCTCCTATACAGATAGGGAAGCAGAGGCTCAGAGATGTGAATCATTG
CCTAGAGTCACACAGCTGACTGAAGAGTGTGCTGCAACTCCAGGACTTGTCTCCCTTACC
TCCCCACAAAGAGTGTGTATCTCTGAGCCCAGCCCAGCCACAGCCTCCACTCTGGGCCCC
GATTAACCTCTGGCTATTAGGAAGGCAGAAGAGGCTCCCCGA (SEQ ID NO:13)

CACCTGCAGTCCCCACAACAACCTGGGAGGGGCTGCTGTCACCAGCCTCTCCTTACAGAC
AAGGAACCTGGCCTTCTGAGGGGAGGTCCACGGGGCAGAGGCACAGCTGGGATCACAGC
TACTGTTTGACGGCACATTCTGCACCTTGAATGTGGCCTGGGGTTACCTCACTGAACCCC
GTGCAGTGCCCTCCTCCTATGACAGATAGGGAAGCAGAGGCTCAGAGATGTGAATCATTG
CCTAGAGTCACACAGCTGACTGAAGAGTGTGCTGCAACTCCAGGACTTGTCTCCCTTACC
TCCCCACAAAGAGTGTGTATCTCTGAGCCCAGCCCAGCCACAGCCTCCACTCTGGGCCCC
GATTAACCTCTGGCTATTAGGAAGGCAGAAGAGGCTCCCCGA (SEQ ID NO:14)

SNP4

A/G

ATGTGCGGGGATGGCATGGGGAAGGGTGCACGATAGAGTGACAAGAGCTGAGCCAAGGAC
AGTGGGAGAAACAGACGGGGAGGCTGGCAGGAAACGTGGAGCTCGGGTCACCCGGTGGGA
GTGGTGGCCACTGGGTCACTGCTGGAAGGAGGTGCACTCACCGGAGACCCTGGGAGCCCC
CAAACAGGGACAGCTCATCCAGGGCGAAGTCGGCATTGAGGAAGGCGAAGCTCTCCAGGA
TGCACTCCATCAGGCTCTCGGCCGAGGTGTGCTCCTGCCGTGCTCTGCAGGGCTGTGGAC
GAAGTGGCCAGACCTGAGGGCAACACCGGGCCCCACCCACCCGACTGGGACACTGGCCAG
GGGCCTCACGGCAGACTTGGGCAATGTCCCGGTCCCAAGCC (SEQ ID NO:15)

ATGTGCGGGGATGGCATGGGGAAGGGTGCACGATAGAGTGACAAGAGCTGAGCCAAGGAC
AGTGGGAGAAACAGACGGGGAGGCTGGCAGGAAACGTGGAGCTCGGGTCACCCGGTGGGA
GTGGTGGCCACTGGGTCACTGCTGGAAGGAGGTGCACTCACCGGAGACCCTGGGAGCCCC
CAAACAGGGACAGCTCATCCGGGGCGAAGTCGGCATTGAGGAAGGCGAAGCTCTCCAGGA
TGCACTCCATCAGGCTCTCGGCCGAGGTGTGCTCCTGCCGTGCTCTGCAGGGCTGTGGAC
GAAGTGGCCAGACCTGAGGGCAACACCGGGCCCCACCCACCCGACTGGGACACTGGCCAG
GGGCCTCACGGCAGACTTGGGCAATGTCCCGGTCCCAAGCC (SEQ ID NO:16)

SNP5

A/C

FIG. 4B

GCCAATTCCCGTGCCCCCTCAGCAGAAGTCTCAGGGCCTCCAGAAAGGCCTCCGCCCCACCC
CCTCTCAGCCCTGTTACCTTTTCATCCTGATGTGGAAGTTCGCCCAGGTGAACCTCCAGGGC
CCCCTCGATGAGCCACATGTCTTGCAAAGCCCCGGAGGTGGCTCAGCTGGCTGCCTGGGG
CTAGGCCACGAGGGCCTCTAACCATCCCTGCAGCCAGACAGAGGCCACAGGCAGAGAGAC
GCCTCCTTGGGGCCCAGAACACCTCCTCCAGCCCCCACTGGCCCAGCTCTCGATGTCCCC
ACTGCCCCGGCCCAGCTCTTGCTGCCCCCTGCTGCCCAGCCCAGCTTGGCCCCGGCCCACCTC
GGCGCACTCGTGCAGGCTGCGGCCCAGCTCCTGCAGGCTCT (SEQ ID NO:17)

GCCAATTCCCGTGCCCCCTCAGCAGAAGTCTCAGGGCCTCCAGAAAGGCCTCCGCCCCACCC
CCTCTCAGCCCTGTTACCTTTTCATCCTGATGTGGAAGTTCGCCCAGGTGAACCTCCAGGGC
CCCCTCGATGAGCCACATGTCTTGCAAAGCCCCGGAGGTGGCTCAGCTGGCTGCCTGGGG
CTAGGCCACGAGGGCCTCTAACCATCCCTGCAGCCAGACAGAGGCCACAGGCAGAGAGAC
GCCTCCTTGGGGCCCAGAACACCTCCTCCAGCCCCCACTGGCCCAGCTCTCGATGTCCCC
ACTGCCCCGGCCCAGCTCTTGCTGCCCCCTGCTGCCCAGCCCAGCTTGGCCCCGGCCCACCTC
GGCGCACTCGTGCAGGCTGCGGCCCAGCTCCTGCAGGCTCT (SEQ ID NO:18)

SNP6

-TTAGTGCCGGGCGCGC (IN/DEL)

CACTGCCCCACCCACCCCTGCAACATCCACGAGCCAGCTGACCTTGCTGATGTGAAACTC
CATCTTCCGAATGTGCCTTTCCACACAGCGGTTTGCTTCTCCCGGAAAAAGGGAAGATG
TTTGCAAAGTTGCCTGGGCCACCCACCTGCCCCGCTTGCCCCCTGCCACCCTCCTACAGGT
CCTAACTCAGAGAATGGGGCTTAGTGCCGGGCGGCCCCCTCACCATCCCTGAGGAAGGCT
CATCGCAGAGACTCAGCCTTCCCATTCCTAAAATGGGGAGGAGACCCAGGTTTTCTGCCC
ATCAGGCAGCCAGGAAGATGCAATGAGGCACAGTCATTCTCATCCAGCCAGGCCAGCCC
ACCTCACTCACCGTATGCAGACTCACCTTGTCCAGGTCATAATAGAAAGCCTGTGA
(SEQ ID NO:19)

CACTGCCCCACCCACCCCTGCAACATCCACGAGCCAGCTGACCTTGCTGATGTGAAACTC
CATCTTCCGAATGTGCCTTTCCACACAGCGGTTTGCTTCTCCCGGAAAAAGGGAAGATG
TTTGCAAAGTTGCCTGGGCCACCCACCTGCCCCGCTTGCCCCCTGCCACCCTCCTACAGGT
CCTAACTCAGAGAATGGGGCCCCCTCACCATCCCTGAGGAAGGCTCATCGCAGAGACTCAG
CCTTCCCATTCTCTAAAATGGGGAGGAGACCCAGGTTTTCTGCCCATCAGGCAGCCAGGAA
GATGCAATGAGGCACAGTCATTCTCATCCAGCCAGGCCAGCCCACCTCACTCACCGTAT
GCAGACTCACCTTGTCCAGGTCATAATAGAAAGCCTGTGA (SEQ ID NO:20)

SNP7

A/G

CAGCGGCAGAGGCCACTGTGACATACCCAAGATGTGACACCTGACCCACTTTCTCTGGCAT
TACAGAAGCCATCCCAAGTCCAGGTACCTGATGGCCAAGGTCTATAAAATAGGACCACC
TAAAGAAATGCACCTCCATACACTGCCACCTTAGCATTACTTCTAGAACCGAGAGACA

FIG. 4C

GTGTGACATGGGCCTAAAACATGTGAACTGCTGTACGTGCCAAAGTGAAGTTAACTCAGT
GCAACGTGAAGAGGCTATTCCATAAACCTCTAGTTCTGAGAAAGAGTCACACCGTGACAT
AGGCTAGAAGGAACGCAGGGTTTCATCTTTTACTCCTGGCCAAGGCTATCTGGGTGGGAAG
CAGGCAGGGAGGGGTCTCACCAGCCTGGAATTCCTCCTGGT (SEQ ID NO:21)

CAGCGGCAGAGGCCACTGTGACATAACCAAGATGTGACACCTGACCCACTTTCCTGGCAT
TACAGAAGCCATCCCAAGTCCAGGTCACCTGATGGCCAAGGTCTATAAAATAGGACCACC
TAAAAGAAATGCACCTCCATACTGCCACCTTAGCATTACTTCTAGAACCGAGAGACA
GTGTGACATGGGCCTAAAACGTGTGAACTGCTGTACGTGCCAAAGTGAAGTTAACTCAGT
GCAACGTGAAGAGGCTATTCCATAAACCTCTAGTTCTGAGAAAGAGTCACACCGTGACAT
AGGCTAGAAGGAACGCAGGGTTTCATCTTTTACTCCTGGCCAAGGCTATCTGGGTGGGAAG
CAGGCAGGGAGGGGTCTCACCAGCCTGGAATTCCTCCTGGT (SEQ ID NO:22)

SNP8

A/G

CTCTGCAGTGCGTGCTCCACAAGATCAGAGTCCTCCTGCCTTAGTCACTGCCAGGTTTCC
AGTGCCCAAGGACCGGGCTGAGCACGCGGCTGCACCCTGACATACTTGCTTACTAAACGA
ATGACCAGGAACTTAACCTGTACCTCTTGAGACAAGACCCATCCACGCTTCCCCAGGA
AGAGACAGAGAGGAGGCGAGATAGAGGAATGCACTTCTTAAAGGCAGCACACAGCCCAGC
CTTACTTGAGGCCTCTTTTCAATGCTTCGAAGATCTTCTTCACCTGCTGGGGCTTCGGGT
CTGCACAGACCGACCCCTTCCGCAGCGTGCCGTACATCTTGGAGGATTTTGCAGGCATTC
GCGATCTCACGGAGTTCCTGTTGATGGACTTTCTGTGAGAA (SEQ ID NO:23)

CTCTGCAGTGCGTGCTCCACAAGATCAGAGTCCTCCTGCCTTAGTCACTGCCAGGTTTCC
AGTGCCCAAGGACCGGGCTGAGCACGCGGCTGCACCCTGACATACTTGCTTACTAAACGA
ATGACCAGGAACTTAACCTGTACCTCTTGAGACAAGACCCATCCACGCTTCCCCAGGA
AGAGACAGAGAGGAGGCGAGGTAGAGGAATGCACTTCTTAAAGGCAGCACACAGCCCAGC
CTTACTTGAGGCCTCTTTTCAATGCTTCGAAGATCTTCTTCACCTGCTGGGGCTTCGGGT
CTGCACAGACCGACCCCTTCCGCAGCGTGCCGTACATCTTGGAGGATTTTGCAGGCATTC
GCGATCTCACGGAGTTCCTGTTGATGGACTTTCTGTGAGAA (SEQ ID NO:24)

SNP9

A/C

AGGAACAAACAGAGTCAGACCAAATCTCCATGACAGTGAGTTCCTGGATCTAGCTATGTC
TAAAGCTGAACCTGCCCCTGGACTTTGCAGTTACATGAGCCAACTGGCTCTCTTTTTTAG
CTTAAGCCAGCTGGAGTTGGGAGTGTGGACTGGATGATCCTAAAACTGCCTTTCAGTGG
TGATGGCTGGGTCCCTCAACATTTAGAGATGTAGCAGCATCTCAAGACTGATTATAGGAG
TACGAGGCCAGGGCACCCCTCATCACAGCACAGAGCTGGTTTCCCTGGCATCTAAGCCTCT
TCTCAGGATCCCATAACTTATCCATGAGGCTGGCTGATGCAGCCTTTGCTCACCAACAGA
TGTGTTGAATTCTGCTCTTAGCCCTCTAAAGCCATCAGCCA (SEQ ID NO:25)

FIG. 4D

AGGAACAAACAGAGTCAGACCAAATCTCCATGACAGTGAGTTCCTGGATCTAGCTATGTC
TAAAGCTGAACCTGCCCCGTGGACTTTGCAGTTACATGAGCCAACTGGCTCTCTTTTTTAG
CTTAAGCCAGCTGGAGTTGGGAGTGTGGACTGGATGATCCTAAAAACTGCCTTTCAGTGG
TGATGGCTGGGTCCCTCAACCTTTAGAGATGTAGCAGCATCTCAAGACTGATTATAGGAG
TACGAGGCCAGGGCACCCCTCATCACAGCACAGAGCTGGTTTCCCTGGCATCTAAGCCTCT
TCTCAGGATCCCATAACTTATCCATGAGGCTGGCTGATGCAGCCTTTGCTCACCAACAGA
TGTGTTGAATTCTGCTCTTAGCCCTCTAAAGCCATCAGCCA (SEQ ID NO:26)

SNP10

C/T

TCTTGGGGCATCAACTTAAACCCTTCCCAGGCTCCCCTCCACTGAGAATGTGTCTCAAGG
CCTCACTGCAGCCCATGAGGCTCCGCAGGGTCCTCCTCCCTCCCTGACTGCTGTACGCA
TGCCAGCCGCACACCTGCTTTCTGTCCCTTAAAGCTCATTCCCACCCAGGACATCTGCAC
TCGCAGCTGCCTCCCGCCGCGGAAGGCTTCCCGGCCACCCCCATCTGCACACGCGCAGA
TCCACTTCTTCTGTCCCTTCCCTGCCTCCACTCCCCATGCCCCTGTCTCGTCAGGCTCTCC
CAGGAGACCATGGGTGCCCTCCCCACCCCCAGTTCAGTTCCTCACAGCACTGCCACCA
GCTGGATCTGTCTCAATTATCACTGGCTTATTGTTTGCTGC (SEQ ID NO:27)

TCTTGGGGCATCAACTTAAACCCTTCCCAGGCTCCCCTCCACTGAGAATGTGTCTCAAGG
CCTCACTGCAGCCCATGAGGCTCCGCAGGGTCCTCCTCCCTCCCTGACTGCTGTACGCA
TGCCAGCCGCACACCTGCTTTCTGTCCCTTAAAGCTCATTCCCACCCAGGACATCTGCAC
TCGCAGCTGCCTCCCGCCGCTGAAGGCTTCCCGGCCACCCCCATCTGCACACGCGCAGA
TCCACTTCTTCTGTCCCTTCCCTGCCTCCACTCCCCATGCCCCTGTCTCGTCAGGCTCTCC
CAGGAGACCATGGGTGCCCTCCCCACCCCCAGTTCAGTTCCTCACAGCACTGCCACCA
GCTGGATCTGTCTCAATTATCACTGGCTTATTGTTTGCTGC (SEQ ID NO:28)

SNP11

C/T

GTTTCTGTCTGCTGGTTGTTAAACACGTATGAGCTCCTCACTGCTGTTACCCCTATCAGC
ACCTATGCAGGGCCTGAGAAGCTGCTCAAACCTGCTTGATCCCCCAGCCAAGCCAGGCAA
GAGAATAAGGACGGAGTAGGGAGGGATTCCCAAAGGTGAGTAGTTGAGACGTA CTCCGGA
GCCAGCCTGGGCACCTGGAGCCGGAAGGGGCTTCCCGGCCCTCCCTCTGCACCTTCCCA
TCAGAAGCCTTCTGGGCCGTTCCCTGGAGCTTCACCCCAGTCACTCCACTTCAAGGTCAGA
GAGAAGGACAATTGCTAAGCAGTTCCTCCCGATGCAAAGCTCAAAACAAGCCCCAGGTCC
TCCTGCTCAGTGTGAGAGAGAGGACGACGAAGGAGGGAAAC (SEQ ID NO:29)

GTTTCTGTCTGCTGGTTGTTAAACACGTATGAGCTCCTCACTGCTGTTACCCCTATCAGC
ACCTATGCAGGGCCTGAGAAGCTGCTCAAACCTGCTTGATCCCCCAGCCAAGCCAGGCAA

FIG. 4E

GAGAATAAGGACGGAGTAGGGAGGGATTCCCAAAGGTGAGTAGTTGAGACGTACTCCGGA
GCCAGCCTGGGCACTGGAGCTTGAAGGGGCTTCCCCGGCCCCCTCCCTCTGCACCTTCCCA
TCAGAAGCCTTCTGGGCCGTTCTTGGAGCTTCACCCAGTCACTCCACTTCAAGGTCAGA
GAGAAGGACAATTGCTAAGCAGTTCCTCCCGATGCAAAGCTCAAACAAGCCCCAGGTCC
TCCTGCTCAGTGTGAGAGAGAGGACGACGAAGGAGGGAAAC (SEQ ID NO:30)

SNP12

G/A

CCAAGGTGTGGCTGGAGGAAGCAGAGTCTACTCCCGCTAAGTCTGTCCGCTCACTGCTGG
CCAAAGCTGCCCTGCGTCTCTCCCCACCGCCAGCCAGAGGGAACCTGCAATTTACCTC
ATTTAGAGGTAAAACATCTAAATTTAACGTTATGGGCTTTTGGGGCTGGGTGGCTTTTAT
GCCTGAGTCCCTCACTTAGGGCTCCTTTTTATCCACTCAAATGCCAGCTAGGGCTTAGTT
TGTTTATAGGAGTTTCCAAAATAGCTCCTTTGGTTTCGCATGAAAGGAAATGGCAAATA
GCCCAGGAAGAGGAATGTGAGTTTACACAGAAGACAGACAGGCGCCCGAGGAGGCTTCTC
TGGAACCAAGTTCGCCTGTACCAGAGGGGGCCCGAGAAAGT (SEQ ID NO:31)

CCAAGGTGTGGCTGGAGGAAGCAGAGTCTACTCCCGCTAAGTCTGTCCGCTCACTGCTGG
CCAAAGCTGCCCTGCGTCTCTCCCCACCGCCAGCCAGAGGGAACCTGCAATTTACCTC
ATTTAGAGGTAAAACATCTAAATTTAACGTTATGGGCTTTTGGGGCTGGGTGGCTTTTAT
GCCTGAGTCCCTCACTTAGGACTCCTTTTTATCCACTCAAATGCCAGCTAGGGCTTAGTT
TGTTTATAGGAGTTTCCAAAATAGCTCCTTTGGTTTCGCATGAAAGGAAATGGCAAATA
GCCCAGGAAGAGGAATGTGAGTTTACACAGAAGACAGACAGGCGCCCGAGGAGGCTTCTC
TGGAACCAAGTTCGCCTGTACCAGAGGGGGCCCGAGAAAGT (SEQ ID NO:32)

SNP13

G/C

TACGTTAGAAGGACCCCTACGTTAGAAGGGTGAGGCGCTAGGGCCATAGCCTAAGGGCACT
GGGAACCCTGTGGGCATGCGCAGTTCAAGCCCATCCCCGCTCCCTCCAGCTGCTGTCCAT
CCCTGCCACACCTGACCATTTCCTAACCTAGATCCTTCCTGTCTTGCAATTTCTCAAGC
ATCCGGAGCCCAGGACTGCTGAGTCAACCCTCTGGAATGCCACAACCTCCCCACAGGCCA
GCCGGCCTTGGGACTCCCGCACAGCCACGTGAGCCGGTGGAGCCGGGTCTGTTTGCTAGT
GGAGGCTGTTAACAGCACGGGAAGTGGTCAAGGGTTCAACAAGAGATGAGCCATCTGGTC
CTCCAGAGGTAAACAATTTACAAGAGACACATCAAGCCGGC (SEQ ID NO:33)

TACGTTAGAAGGACCCCTACGTTAGAAGGGTGAGGCGCTAGGGCCATAGCCTAAGGGCACT
GGGAACCCTGTGGGCATGCGCAGTTCAAGCCCATCCCCGCTCCCTCCAGCTGCTGTCCAT
CCCTGCCACACCTGACCATTTCCTAACCTAGATCCTTCCTGTCTTGCAATTTCTCAAGC
ATCCGGAGCCCAGGACTGCTCAGTCAACCCTCTGGAATGCCACAACCTCCCCACAGGCCA
GCCGGCCTTGGGACTCCCGCACAGCCACGTGAGCCGGTGGAGCCGGGTCTGTTTGCTAGT

FIG. 4F

GGAGGCTGTTAACAGCACGGGAAGTGGTCAAGGGTTCAACAAGAGATGAGCCATCTGGTC
CTCCAGAGGTAAACAATTTACAAGAGACACATCAAGCCGGC (SEQ ID NO:34)

SNP14
C/T

GGGTTTCCCCCAAGCCCCTTTCCCCCTTTGCGCCTCCCACTTCTCCTAGATTGAGAGTCA
GCTTGGTTCTTTCCTTTACATCCATTAGTGAGGGTCAGGCTCTTTTGTTATGTTTTTTTT
TCTTTTGTATAACTTAATTATTTACAGGGTTCGGGGTGGGCGCTCGCCCCTTGCCCAGTCA
CACTGGTGTGTGTGCGACTCTTACAAAGTTAACAGTTTCTCCAGGTCAAGGGGTGGGATC
CAGGCTTGGTGATGTGCACAATTTCTTTTGTCCACTTGACACATCTCTGCGTCCTGATTC
TGCTCAGGGACGGACCCAAGAACAAAGCAGCCATTTACCGCCTCCGGAGGGGAGGCCAGC
CCTGTGGCACATCCAGGGCCTTGGAACACCTAGAGACAGAT (SEQ ID NO:35)

GGGTTTCCCCCAAGCCCCTTTCCCCCTTTGCGCCTCCCACTTCTCCTAGATTGAGAGTCA
GCTTGGTTCTTTCCTTTACATCCATTAGTGAGGGTCAGGCTCTTTTGTTATGTTTTTTTT
TCTTTTGTATAACTTAATTATTTACAGGGTTCGGGGTGGGCGCTCGCCCCTTGCCCAGTCA
CACTGGTGTGTGTGCGACTCTTACAAAGTTAACAGTTTCTCCAGGTCAAGGGGTGGGATC
CAGGCTTGGTGATGTGCACAATTTCTTTTGTCCACTTGACACATCTCTGCGTCCTGATTC
TGCTCAGGGACGGACCCAAGAACAAAGCAGCCATTTACCGCCTCCGGAGGGGAGGCCAGC
CCTGTGGCACATCCAGGGCCTTGGAACACCTAGAGACAGAT (SEQ ID NO:36)

FIG. 4G

AGCATCCGGAGCCCAGGACTGCTCAGTCAACCCTCTGGAATGCCCACAACCTCCCCACAG
GCCAGCCGGCCTTGGGACTCCCGCACAGCCACGTGAGCCGGTGGAGCCGGGTCTGTTTG
CTAGTGGAGGCTGTTAACAGCACGGGAAGTGGTCAAGGGTTCAACAAGAGATGAGCCAT
CTGGTCCTCCAGAGGTAAACAATTTACAAGAGACACATCAAGCCGGC (SEQ ID
NO: 34)

SNP14
C/T

GGGTTTCCCCCAAGCCCCTTTCCCCCTTTGCGCCTCCCACTTCTCCTAGATTGAGAGTC
AGCTTG GTTCTTTCCCTTTACATCCATTAGTGAGGGTCAGGCTCTTTTGTTATGTTTTTT
TTTCTTTTGTATAACTTAATTATTTACAGGGTTCGGGGTGGGCGCTCGCCCCTTGCCCAG
TCACACTGGTGTGTGTGCGACTCCTACAAAGTTAACAGTTTCTCCAGGTCAAGGGGTGG
GATCCAGGCTTGGTGATGTGCACAATTTCTTTGTCCACTTGACACATCTCTGCGTCCT
GATTCTGCTCAGGGACGGACCCAAGAACAAGCAGCCATTTACCGCCTCCGGAGGGGAG
GCCAGCCCTGTGGCACATCCAGGGCCTTGGAACACCTAGAGACAGAT (SEQ ID
NO: 35)

GGGTTTCCCCCAAGCCCCTTTCCCCCTTTGCGCCTCCCACTTCTCCTAGATTGAGAGTC
AGCTTG GTTCTTTCCCTTTACATCCATTAGTGAGGGTCAGGCTCTTTTGTTATGTTTTTT
TTTCTTTTGTATAACTTAATTATTTACAGGGTTCGGGGTGGGCGCTCGCCCCTTGCCCAG
TCACACTGGTGTGTGTGCGACTCTTACAAAGTTAACAGTTTCTCCAGGTCAAGGGGTGG
GATCCAGGCTTGGTGATGTGCACAATTTCTTTGTCCACTTGACACATCTCTGCGTCCT
GATTCTGCTCAGGGACGGACCCAAGAACAAGCAGCCATTTACCGCCTCCGGAGGGGAG
GCCAGCCCTGTGGCACATCCAGGGCCTTGGAACACCTAGAGACAGAT (SEQ ID
NO: 36)

FIG. 4H

SNP Table

SNP Name	Source	dbSNP ID	Nucleotide Change	Position
SNP1	dbSNP	rs16437	TTGA IN/DEL	48931488
SNP2	dbSNP	rs1060402	A/G	48933573
SNP3	Joslin		A/G	48940121
SNP4	Joslin		A/G	48942634
SNP5	Joslin		A/C	48954431
SNP6	Joslin		TTAGTGCCGGGCCGGC (SEQ ID NO: 8) IN/DEL	48956026
SNP7	dbSNP	rs2426169	A/G	48960837
SNP8	Joslin		A/G	48964956
SNP9	dbSNP	rs768175	A/C	48966905
SNP10	Joslin		C/T	48973501
SNP11	dbSNP	rs2426183	C/T	48978623
SNP12	Joslin		A/G	48981954
SNP13	Joslin		G/C	48990734
SNP14	Joslin		C/T	49037219

*Genomic positions correspond to the Build 29 human genome assembly from NCBI (UCSC version hg11)

FIG. 5

```

1 MLVGSQSFSPGPGNGIIRSQSFAGFSLQERRSRCNSFIENSALKKPQAKLKKMHNLGH 60
  |||||
1 MLVGSQSFSPGPGNGIIRSQSFAGFSLQERRSRCNSFIENSALKKPQAKLKKMHNLGH 60

61 KNNPPKEPQPKRVEEVYRALKNGLDEYLEVHQTELDKLTAKLDMKRNRLGVLYDLDK 120
  |||||
61 KNNPPKEPQPKRVEEVYRALKNGLDEYLEVHQTELDKLTAKLDMKRNRLGVLYDLDK 120

121 QIKTIERYMRRLEFHI SKVDELYEAYCIQRRQLQDGASKMKQAFATSPASKAARESLTEIN 180
  |||||
121 QIKTIERYMRRLEFHI SKVDELYEAYCIQRRQLQDGASKMKQAFATSPASKAARESLTEIN 180

181 RSFKEYTENMCTIEVELENLLGEFSIKMKGLAGFARLCPGDQYEIFMKYGRQRWKLKGKI 240
  |||||
181 RSFKEYTENMCTIEVELENLLGEFSIKMKGLAGFARLCPGDQYEIFMKYGRQRWKLKGKI 240

241 EVNGKQSWDGEETVFLPLIVGFISIKVTELKGLATHILVGSVTCETKELFAARPQVVAVD 300
  |||||
241 EVNGKQSWDGEETVFLPLIVGFISIKVTELKGLATHILVGSVTCETKELFAARPQVVAVD 300

301 INDLGTIKLNLEITWYPFDMEDMTASSGAGNKAALQRRMSMYSQGTPETPTFKDHSFFR 360
  |||||
301 INDLGTIKLNLEITWYPFDMEDMTASSGAGNKAALQRRMSMYSQGTPETPTFKDHSFF. 359
  
```

FIG. 6A

```

361 WLHPSPDKPRRLSVLSALQDTFFAKLHRSRSFSDLPSLRSPKAVLELYSNLPDDIFENG 420
    |||||
360 .....SNLPDDIFENG 370

421 KAAEEKMPLSLSFSDLPNGDCALTSHSTGSPSNSTNPEITITPAEFNLSLASQNEGMDD 480
    |||||
371 KAAEEKMPLSLSFSDLPNGDCALTSHSTGSPSNSTNPEITITPAEFNLSLASQNEGMDD 430

481 TSSASSRNSLGEQEPKSHLKEEDPEEPRKPASAPSEACRRQSSGAGAEHLFLENDVAEA 540
    |||||
431 TSSASSRNSLGEQEPKSHLKEEDPEEPRKPASAPSEACRRQSSGAGAEHLFLENDVAEA 490

541 LLOESEEASELKPVELDTSEGNITKQLVKRLTSAEVPMATDRLLSEGSVGGESEGCRSFL 600
    |||||
491 LLOESEEASELKPVELDTSEGNITKQLVKRLTSAEVPMATDRLLSEGSVGGESEGCRSFL 550

601 DGSLEDAFNGLLLALEPHKEQYKEFQDLNQEVNMLDDILKCKPAVSRSRSSSLSLTVESA 660
    |||||
551 DGSLEDAFNGLLLALEPHKEQYKEFQDLNQEVNMLDDILKK..... 591

661 LESFDFLNTSDFDEEEDGDEVNCVGGADSVFSDTETEKHSYRSVHPEARGHLSEALTED 720

721 TGVGTSVAGSPLPLTTGNESLDITIVRHLQYCTQLVQQIVFSSKTPFVARSLLEKLSRQI 780

781 QVMEKLAASVDENIGNISSVVEAIPFEHKKLLLSFWTKCCSPGVYHSPADRVMKQLEA 840

```

FIG. 6B

841 SFARTVNKEYPGLADPPVFRTLVSQILDQAEPLSSSSLSSEVVTVFQYYSYFTSHGVSDLE 900
901 SYLSQLARQVSMVQTLQSLRDEKLLQTMSDLAPSNLLAQQEVLRTLALLLTREDNEVSEA 960
961 VTLYLAAASKNQHFREKALLYCEALTCTNLQQLQKAAACLALKILEATESIKMLVTLQCQSD 1020
1021 TEEIRNVASETLLSLGEDGRLAYEQLDKFFPRDCVKVGRHGTAVATAF 1068

Top sequence: predicted Diff40 long form (BAA20840) (SEQ ID NO:23)
Bottom sequence: predicted Diff40 short form NCBI (NP_056948) (SEQ ID NO:24)

FIG. 6C

FIG. 7A

```

710 RGHLSALTEDTGVGTSVAGSPLPLTTGNESLDITIVRHLQYCTQLVQQIVFSSKTPFVA 769
    .|. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
602 .....SSLKASSRELTAGAPELDVLLMVHLQVCKALLQKLASPNLSRLVQ 646

770 RSLLEKLSRQIQVMEKLAASVDENIGNISSVVEAIPFHKKLSLLSFWTGCCSPGVYHS 829
    |||...| | : | | . : | | | | : | | | | | | | | | | | | | |
647 ECLLEEVAQQKHVLETLSVLDFEKVGKATSIEEIIIPQASRTKGCLKLWRGCTGPGRVLSC 706
    7
830 PADRMVKQLEASFARTVNKEYPGCLADPVFRTLVSQILDQAEPLSSSLSE.VVTVFQYY 888
    || : |||. | | . ||| : | | . | | . | | : | | : | | : | | : |
707 PATLLNQLKKTFQHRVRGKYPGQLEIACRRLLEQVVS CGLLPGAGLP EEQIITWFQFH 766
    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
889 SYFTSHGVSDLESYLSQARQVSMVQTLQSLRDEKLLQTMSDLAPSNLLAQEVLRTLAL 948
    || |||| : . || : || : || : || : || : || : || : || : || : ||
767 SYLQRQSVSDLEKHFTQLTKEVTLIEELHCAGQAKVVRKLGQKRLGQLPLPQTLRAWAL 826
    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
949 LLTREDNEVSEAVTLYLAAASKNQHFREKALLYCEALTKTNLQLQKAAACLALKILEATE 1008
    | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
827 LQLDGTPRVCRAASARLAGAVRNRSFREKALLFYTNALAENDARLQQAACLALKHLKGIE 886

1009 SIKMLVTLQCSDTEEIRNVASETLLSLGEDGRLAYEQLDK 1048
    || . |||| | : | | | | | | | | | | | | | | | | | | | | | |
887 SIDQTASLCQSDLEAVRAAARETTLSFGEKGRLAFEKMDKLCSEQREVFCQEADVEITIF 946
  
```

Top sequence: predicted Diff40 long form (BAA20840) (SEQ ID NO:23)
 Bottom sequence: T2DM-1a (SEQ ID NO:2)

FIG. 7C

[illegible]

FIG. 8A

>T2DM1 and T2DM2 refseq, +/-1000bp
GCCTGAGGCCACCCTCCAAGTGTCCCCACAGCGCACCACAAGACCACAGGAGTGACCTCC
TCACTGGCAGGTATTTGGGGAAACAACCTGCTGTCTACTCTTTTGGGTAAAAAGTGAAACA
CCAATAGTTTAATTGAAATTTAGAAAATTGAACATATGAACAAGGCAAATAAATACTAA
GTAAGTTAAAAACACAAAATATGTCCAGGAAGTATCGATGAGAATGTTCAAGTTAAAGTT
CTCCAATGCCATTGCTACAGCAACCTCAAACCCTAGGTTCTCTCTGCACTATTAACACAG
ACATCTCAGGACATGGTTTGCTTTTTTTTAAGACTTAAATAGGAACTAATTTTTCTTTT
TTTAAAGCAATTGCGTTCTTCAGTGAACCTTTTCTTTAGGCCAGTTGATGGCTTCTTAGC
AGTTTATTGACGAGATCCTAGGGTAGCTTCCGAAGCTGGGTTGATTGATTGCATTTGGGT
GCGGATGGCCAAAGTGAGTGGCCCTACTGCCTGTGCTGCTCAGGGCTCCTGGGCTGATGT
GGTGGCTTCTTCCCTTTGTGCTGCTGAACATAGGGAAAGTGAGGTTACAGTCCACCATC
CACCAGCCGCCGTCTGTGAGCTCCACCAGCACTCGCAGCAAGTCAGTCGGGCTGAGAGTG
TGGTTGTAGAAACCCTGGCTTTGTGCCTTCCCACCTTCCCCAGCTCACCAAGGTGACACC
TGGCTGCTGCTGAAATGGCCTGAGCAGTCTTGCAATTAGCAGGGCCAGCCACCTGCCAGCC
TGCTGCATCCCCAGTGCCTCTTGACGCAGAAGTGCCGAGCAGCTGACCGGCAGCGAGGCC
TGGAGTTCTACACACTTGCCCTTGAGCCTTTTATTTAGGGCCTCAACTTGCCCTGGCCTTG
GCCCTTTTGTAGGTGGCCACCTAGTTTGGCTCAGCTCTGCATCTCGGGGAAGGTCACACA
GACCCTCAGCCAGAAGTTGAGCGCTCTGTTGAGGCGGTGCAGCCCCTGGAATGCTGTACC
TTTGCCTTGCTTTTTTCTGCCTCTGTACAAAAGACCAGCCCATGCCCTGGGGCTGGGTCA
ATGGCCGGAGTCTCAGGTAGAGCTCTGGGCAGCTCACACTCCTGGAGGAGTGACACAGCAC
CATTACCCAGAGTGACAGGCTATGTCCAGGCTGGGCAGCAGCAAAAAAACGATGTGAGAT
TTGTGCTCATCAGCCAGGATTTTTTAAATATTGTGATTTCACATCTGCCTCCTGGCAA
AAGACTTCTCTTTGTTCTGAGCAGAGCTTGTCCATCTTCTCAAAGCTAACCGTCCTTTT
TCACCTGAAATAGCAAAGGGACCTGTGAGCGGGTTGGATCCTGCCTTGGCACTTCCAAC
CTCCTGGGCCAGGGTGGCCCTAGTGCTTAGTGACTGTGGGTCTCAGTGGTCTCTGCAAG
CGGCAGGGGAGGGAGTATGTGCGGGAGCCCCCACCTGGTGACTCACATGGCCTGGGGGCC
TTGTCTTTACCTCTAGGATGTTCCGCTGAATGGGAACCTGCCTTGCCCTCTGGCTTCTAT
CCCAAAGGTCTAAGAAGACAGCGAACACTCCCTGCCACCCAGCCATGGAGGAGGCCTGC
CTTGGCAGGATGCTACAAAGGGTGGAGGTGGGCTCTGTGCCAGGGCTGCTAACGGTGCCC
ATCCCAGGTGCCCCAGAGTTGTTCTGCCTGCTGGGAGAGCTGGGTGTGGCCTCTCGCAGA
TTCTAAGGGCCCCAGGCACCCCGCTGCGCTGCACAGTTTGTGCCACTTTTTACCGAACGA
CAGTGTGGTTTCCCGGGCTGCCGCCCGCAGGCCTCCAGGTCAGACTGGCACAGGCTGGC
AGTCTGGTCGATGCTTTCAATGCCCTGTTGAGATTAGGAGAAAAAGAACCCCTTTAGGGG
GCCTTCTCAACAGCAGGTAGAGTCCACTTAGTGCCCTGCAGGGCCAGTCCTAGCATGGT
CTCTGGGGCCTCAGCCCCCTTCTTTTTCTCAGGCTTCCAGGTTTTTTAGGTGGCCTCAGG
TTCATGAGAGGCACCTCTGGACTCTGGAAGCGTCTCGCCTCTTACGCCCTTACACCCGCT
AGGGAGCCAGGCTGTTAGCAGAACTCGTCATCCTGGATGCCTGCTGAAAGGCTAGAATTG
AAAAGGAGACCTGCTGCTTTCTGACCTTCTGCCTCCCTCACGCTCTCCTTGCCCTACT
CTCCAGGACAGCCTGTGCCAGTACTTCGCCCCAACTCAGGCACATGCCCCCTGGCTGCTCC
TGCAGGCCAAGGACCGGCATGCGCTGCAGCGCCCTCTACTGGGCACCTGGCCCTCGCTGG
TTTTCTGATCCTAACCAGCTTCTCCTCTTAGAATTTCTGCTGATCCATCCCAGAATGAA
TGGGAGTTCAATCTGTACTGAATTATCTTTTCTATCTAGCAATTGTGCAATTCCAAATGCAG
GTGAGGTTGAGGGAAAGCGGGCATCCCCACATCCATGGGATCTATGTGTGGGTGTAT
CAAGAGTCTCAAAAATGCTCATATTCTCCGGTCTTAGAATTGGGTCTAGCCTAAGGAAAT
AATTCAGAACTCCATGTTTTTTTTAAAGCTTTATGCACAAACATGATCATAAGACATGATT
TATGATAAAAATTGGATGAAGTAACTTTCCTATGAAAGCAGCTGAGTAGGTTAAATTAA

FIG. 9A

GGTATACACTTGATAGCCCCTTCATAAAGAATTCTCAAGTGAAAAAAAAAAAAAAAAAAAA
GAAAAAAAAACACCACAAATAAAGAATTCTAGGCCGGGCGCGGTGGCTCATGCCTGTAATC
CCAGCACTTTGGGAGGCCGAGGCGGGCAGATCACGAGGTCAGGAGATCGAGACCATCCTG
GCTAACACAGGTAAACCCCATCTCTACTAAAAATACAAAAAATTAGCCGGGCGTGGTG
GTGGGCGCCTGTAGTCCCAGTTGCTGGGGAGGCTGAGGCAGGAGAATGGTGTGAACCCAG
AAGGCAGAGCTTGCAGTGAGCCGAGATCGCGCCACTGCACTCCAGCCTGGGTGACAGAAC
AAGACTCCATCTCAAGAAAAAAAAAAAAAAAAAAAAAAAAAAGCTAAAGTGCTGCCA
GTCTAACACAAAATGTTCTTATTTTGTGTGACTGTTTTTAACTATGTTTGGATCAACAAT
TTTAAATGCTCACACACACCCACAACTTTTAAAAGAAGCATACCAGAATGTCAACCATT
GTTTCTGCTACATTCTAGGATGATGGATAACTTTCTTTTCTATCTCTGTATTTTGTAAC
TTTTTTTTTTTTTTTTTAAAGATGGAGTCTTGCTCTGTCAACCAGGCTGCAGTGCAGTGGC
ACGATCTCGGCTCACTGCAACCTCCACCTCCCGGGTTCAAGTCCCGAGTAGCTGGGACTA
CAGGCATGTGCCACCACGCCTAGCTAATTTTGTGTGTGTGTATTATTAGTAGAGATGGAG
TTTCGCCATGTTGGCCAGGCTGGTTTCAAACCTCTGACCTCAGGTGATCTGCCTGCCTTG
GCCTCCCAAAGTGCTGAGATTACAGGCGTGAGCCATCACGCCAGCCCCAGTGGAATCAT
TTTGAAGTTAACTAACCTTAACCCTAACCAAGCAGGCTTTTCTATCAGCCACTAATGG
GGAAACGTCAGGCTCACCTTGAGGTGTTTGAGCGCTAGGCATGCGGCCCTGCTGGAGCCTT
GCGTCGTTCTCTGCCAGGGCGTTGGTGTAGAACAGCAAAGCCTGGGGAGAGTAAGGAGGC
TGTGAATGGAGGGGTAAAGCAGAAGTGAGTCCATGGTTCCGGGTCCATCAGCCACCAGGT
GCCGACAGTAAGGCACGCTGTGCCCATCTTTCTCTAAACAACGTTCAAGACACGATCGGT
CCATCTTTGGGCCCTGTGTACACAGTCACAAGATCTATACTGTGGTGTTTAATTTATCCC
TAAAAACAGATGCCAGGGCTAATACAATGAAGAAAGCTATTTTTGTCTAATAATATTCGG
GAAGTGCAATTCTGAACTGCTGTCTATAAAATGCTGAATCAGAGAAATCAGATGCCCAGC
TCAGAACAAACAGAAGAACTGATCATCCCATGTGCGTTGCCCTCTTCAGCTGAAAACGGGC
AAGGCTGCTGCCTTGGGCCAGAGGGAAACCTGCCTATTCCCCTCAGCCCTCCTGTCCAAT
CCCAGCGGTGACCCTGCCCTCTTCGGTCTCACGACCATGGCCACATCAGTTCATGTCTTT
GGGCCTAACTTGACTCAGCTGAAAACAAAGCTGGCACTTGCTTCATGTGTTATTGTAGGG
TTTGTGAGAAAGCACACAGGTTATGCCCGGCCCGCAGTGAGTCCAGCGTCTGCGGCTG
CAAAGGGAAACCCAGGAGTGGGTTTGCCCTCACTCAGTCGAGTGGCTGCACCTTCAACTG
CACGGGTGGGGCGATGGAGGGGCCAGGTGTAGAGTTGGCTCCAGGGACCTGGGGCCAGA
GCCAAAAGAGAATGGCCGCCTTTCCATCTGCAGGTGGCTCTCAAAGTGTCTGCTGCTTT
GGGAAGACAGACTGGGAGTAGGATCGGGTCTCCCGCTCCTCCTACACAGGGCTCTGGTG
AAGGCTGTGAGGCCACATCGGTGTGGAATGTCACACTGCCCACTGCCTCTAACCCAGG
GTCCCAGGTCATGGCAGCCTACTCCTTCTCAGCACCCCTCATCTGAGGCCAAGCAATCTG
TCACTGGGTGGCCCCCACCTCAGTGTTCCTACTCTCTAAAGTCTGTACATGAAGATG
AAGGCCCTTTTTTTTTTTTTTTTTTGTAGACAGAGTCTCACTTCGTTGCCCAGCCTGGGGTG
CAGTAGCACAATCTCGGCTCCCTGCAGCCTCTGCTTCCCATGGAGGCCCTGTTTATATAC
CCCCATACCCAAAAACAAAATACACCTGACTTCAGTGGATCCTTGAAGCCAACTACTAG
TTTTCAGGAATAACAGAAGACAGAGAAATACATTAACTACCGTTAACTTCCTGCAAGC
AGCAAAGTCTAGATAGTCTAGGTCAACCTGGGATCGATCAAATTAATTGCAAGCAGAGAA
AGAAACGGGGAAAAAAACCTTTAGATTGATTGGAAGCCATCAGCCAATCACAATGTGTGT
CCTTATGTAGATACTATTTTAAACAAAAAATAAAACAGGATGCTTGAGGCTTGGAATTTG
AACATAAGATATATGATATAAAGGAATTGATAGTTAATTTTTTTAGATAAGATAATGGTGT
TAGAGTTGTGATTTTTGAAAGAATCTTAACCTTTTGACACATATAGTTAACTATTTAAG
GTCAAATAGGATGCCTCAGGTTGCTTCAAAGTGATACAGGGGAGTGAGGGGGAAAGGGGC
AGGATTGGCCATGGGTTGATGGTGGTTGGGCTTGGGTTATGGGTGCAGGTGGATTCATTA

FIG. 9B

TATTGCTCTGTCTACTTTTGCAAGTTCAAAAGTCTCCAAATAAAGAGTTAAAAACAACCA
CAAAGTAGGCGGATGGGCTCCAAGAAGGGCTATTGGCAATGGAAGTGGAGATTTCTCTC
TAGTCTGGAGCTGAGACCATCAGTGTAGACTATGCCCTTGATGTCACCCTTCCTGAACCC
CTCAGGGTGTGGCGCCTTAAACGTACAGTAGTTACAGGCAAAGAGTGAAAAAGCAGAGAG
GTCCACTCTCTGGTTTTCAAATGGACTGAACACAGTGACCCATTACCAGGTAGCCATGA
ATATTAATTGAAAGTAAATAAGGATGACTATCAAAACACTAAGAAAGGCTGGGCGCAGTG
GCTCACGCCTGTAATCCAGCACCTTTGGGAAGCCAAGGCAGGCGGATCGCAGGGTCAGGA
GTTTGAGACCAGCCTGGCCAACATGGTGAAACCCTGTATCTACTAAAATTACAAAAATTA
GCTGGGTATGGTGGTGGGCGCCTGTAATCCCAGCTACTCAGGAGGCTGAGGCAGGAGAAT
TGCTTGAACCCAGGAGGTGGAGGTTGCAAGATCGTGGCACTGGACTCCAGCCTGGGCAAC
AGAGCAGAACTCTGTCTAAACAGACAGACAAAAACGCACTAAGAAAAACATTCAGCGTG
CAAGTGACATCTCAGAGGCCTAACAGATGTGTTGCTTTGGAAGCAGCAAGGTGCATTTCAT
GTGTGTTAGATCGTAGCCCAGGTCCCTCCATCAAAATAGCTCACAGCTACTGCAGCCCCT
GGCACTCACTTCTTTGTACTTTTCCATGAGAACACCAGCTTACCTATGCCACACATCTG
TGGCCAGGGTCTGCCACCTGCCCTGGACAACGTACCTTTTCCCGGAAGCTTCTGTTCCCTG
ACTGCACCAGCCAGGCGAGCGCTGGCCGCCCTGCACACCCTCGGAGTGCCGTCCAGCTGG
AGCAGCGCCAGGCTCTTAAGGTCTGGGGCAGAGGCTGGAGCTGGCCCAGCCGCTTCCCC
TGCAGCTTCCGGACCACCTTGGCCTGTCCCGCACAGTGAAGCTCCTCGATGAGTGTCACT
AGAAGACAGGAAAGAGGTGGGCCCAGGTCCCCTGAATGGGAGTTTGGCAGGACAGCTGCA
AGTTTGCTTGGCTGCTGCCAGTAGCCACAGAGGAACAAATCCCAGACCCACCGGGATGAT
CACCAAGGCCCAGCCTGGACTAATTTACAGGGAGCTCCTGGAATCTCCAGGAAGGCCTT
TTAACAAGGGGTCAAATATGCTCCATAAATTAATAAAACCACAGCCCACTTCCAGGGA
CTCTGGCCAGCCAAGATCACCCCTCCTACCCAGCTCTGACCTCTGTTCCGTGCTTTTAA
GCTGACTTCCCTTGGAGCTAATATCAGCCCCATCGGCTGAACGCAGAATCTCATTAAAT
CGGGGTTCCCAAAGAACAGTTGGCGGGGATGGATGTAGTGGTTCTGAATTATAACCTGA
GAAACTGCATGTGACAGGGCTCCGTGGATATTCTCTGCTATGACAGCCACCCACCCAG
TCTTACCTTCTTGGTGAGCTGGGTGAAGTGCTTCTCCAGGTCAGAGACGCTCTGCCTCT
GCAGGTAGCTGTGAACTGGAACCAGGTAATGATCTGTTCTTCTGGGAGCCAGCTCCGG
GGAGCAGCCACACAGCTGACCACCTGCTCCAGGAGCCTGCGGCACGCTGGCCAAAGGG
GAGAGTACATCAGGAGAACTGAGACCTCGACCTCCACGCTTCTCAGCTGGGAGTAGCC
TGGTCAGCTAAAAGGCTTCTGGGCCGGGCGCAGTGGCTCGCACCTGTAACCCAGCACT
TTGGGAGGCCAAGGTGGGCAGATCACCTGAGGTCAGGAGTTCGAGACCAGCCTGACCAAC
ATGGTGAAACCCATCTCTACTAAAAATACAAATTAGCTGGGTGTGGTGGTGCCTGCCT
GTTTCCCAGCAACTCTGGAGGCTGAGGCAGGAGAATCGCTTGAACCCGGGAGGTGGAGGT
TGTAAGTGAAGCAAGATTGCGCCACTGCATTCCAGTCTGGGCAACCATGAGTGAAACCCCA
TCTCAAAAAAAAAAAGGGTTTCTGATGGCACGAGGGCAGGTGTCCCTCACTGCATTCCCT
GTGCTGTAGGGGAGGAGTGTGCCAGCTAGAGTCAGGACTGTGACTCCAACCTCACCCCTGA
GTCAGACCGTGTTGGGTTCATCCCCATGCCCTGGGCCCCACACCACACCTGGATCAAAAT
CCCGGAGGCAGGGCCTGGGAATATGCATGTCAACAAGCAGTCCAGGTGGTGCTTGAACA
TGACTGTCACCTTTCACTTGCTCCACAGAGAAAGGCAAATCTGGGGAAGAACGCAGTCC
AGCCAGCATTTCTAGATACCCTCGTGGGCCCCCTGCCTGCCTCCCTTCCCATAAGGTTTCAT
TCTTTACCCGTCAGGCTCTGGTGGGAGGCATGGAATCTGTCCCAGAAAAATGCTCTGGC
GGCCGGGCGCAGTGGCTCATGCCTGTAATCCCAGCACTTTGGGAGGCCGAGGCGGGCGAA
TCACAAGGTGAGGAGTTCGAGACCAGCCTGGCCAATATGGCGAAACCCCGTCTCTACTAA
AAATACAAAAAAGAAAATTAGCCAAGCGTGGTGGTGCACACCTGTAATCCCAGCTACTC
GGGAGGCTGAGGCAGAAGAATCGCTTGAACCCGGGAGGTAGAGGTGTCAGTGAGCCATGA

FIG. 9C

TTGTGCCACAGCACTATAGCCTGGGCGACAGAGTGAGACTCCATCTCAAAAAAAAAAAAA
AAAAAAAAATGCACCGGCCACCAAGTTTGCACGCAGCTTCAGGGCTCCACAGACTGCTCA
GAAGGCCCCACGTGGAGGCCCTTCTCGCCCGGTGAAAGGGCGGTGACTCGCACTGAAGC
TGAGAAAGCTCCTCCGTCCGATGGCATGAAGACACAGAGGTGAAGACAGGGCTGAAATGA
GGCCAGCTGTGGCCACCCTGAAGGCCCTGGAGACTCAATACAGCCTTTCTGTGGGAGGGG
ACGACAGGACAGAAGGGAACCCACCTATTTCAGCTGTCCTGGGTACTTCCCTCTGACTC
TGTGCTGGAAGGTTTTCTTGAGCTGGTTCAGCAGCGTCGTGGCAGGGCAGGACAGGACCC
TGCCAGGCCCTGTGCACCCTCTCCACAGCTTCAGGCACCCCTTCGTCCGCGAGGCCTGTG
GGATGACTGAAAGCCCCAGTTCAGAAACCTGAATGGTGACTCGGGGAGAGCACATGACAA
GGACCCGAAAGGTTTCCCTCCACTAGGACCTGAGGGGGTAGGGAGGAGGGGACGGTGTGG
CTTGATGCGAGGTCCCTTCCCTGCATTCCCATGTGACACGTGAGCAACTTTGGCTCTAAG
CATCTTACCAGGGCCACCACCTGCAGTCCCCACAACAACCTGGGAGGGGCTGCTGTCACC
AGCCTCTCCTTACAGACAAGGAACCTGGCCTTCTGAGGGGAGGTCCCACGGGGCAGAGGC
ACAGCTGGGATCACAGCTACTGTTGACGGCACATTCTGCACCTTGAATGTGGCCTGGGG
TTACCTCACTGAACCCCGTGCAGTGCCCTCCTCCTATGCAGATAGGGAAGCAGAGGCTCA
GAGATGTGAATCATTTGCCCTAGAGTCACACAGCTGACTGAAGAGTGTGCTGCAACTCCAG
GACTTGTCTCCCTTACCTCCCCACAAAGAGTGTGTATCTCTGAGCCCAGCCCAGCCACAG
CCTCCACTCTGGGCCCCGATTAACCTCTGGCTATTAGGAAGGCAGAAGAGGCTCCCCGAGC
TTTGATCCCGTCCCCGTGCCGCTCACATAGGCAGCCCCCTGGGTGGCAGGCAGCTACTTAC
TCTCTTCAATGGATGTTGCCCTTGCCGACCTTCTCAAAGTCAAGGACAGAAAGTGTCTCCA
GAACGTGCTTTTGCTGTGCCACTTCTTCCAGGAGGCATTCTTGACCAGCCTTGATAAAT
TAGGGGAGGCCAGTTTCTGGGAAGCAGCCAGATGCTCCAGATTAGCATGGAACATGCCC
ACCGAGGTCAGCTGTTACGGCTGTGGCTCCCACCTGCTTGTGCCCATCTCTTCTGTCCCC
GGGGCAGCTCCCTGACTGTCAATTTGGGGATTCCCCCTTTCACCAAGGTGGCTGAGCTAATG
GGATGCAGGCTGGGCTGCCAGGGACCACCTTTGCCCCCAGAAGGAGGACCAACCTGCCTG
AAAGTGAAGCCAACCCACATTGCAAAGCAGAACTGAGAGAGACCTAGTCCTGATAGCATT
TGAACCCGTGCATCCAGCCGAGCCTGAAGCCTACCTCTGAGGCTTTCAGTACCATGAGCC
GATAAATTTTCTGTTGGCTGAGCCAGTTTGCATTAGGGTTCTGGCACCTATAAATGAGA
GTCACCACCAAAGCCTTTGGTTTAGGGCTTGGCCTGTGTAAGAGCCACACGAGTATTAC
CCAGACCCTGGTCTGCCTCTCTTCCACTGGGGAATAGCTTCAGTCTACGGGCTTCCAGG
ATGCAGGCTGTGCACCCCTTCATGCTTCCCACCACCTTCAAGATGAGCCTTTGCAAAGAG
GACTCCAAACCCCTGTCTGCCCCCTCCCTGACAAGTCCCCCTAGCCCAGCCACCTGCAGCAG
AGCTTTGCAGACTTGGAGGTGTACCATCAGCAGCACGTCCAGCTCTGGGGCACCGGCTGT
GAGTTCCCTGGATGACGCTTTCAGTGATGACGGTGGGGGCAGGGGCCGGTCTTTCTGAG
TTGAATTGAGAACTGGGTGACCATTCCAGTTAGCAGTTCAGCTCCCTCTGAGGGTGGGGG
AACCCTCCCTTCCCAGCGAGCCCCAGGTCAGGAGGCCCACTCCAGGTCCCAGGAAGTTCA
ACTGAAGAGGAAGGGGAAGGAACAAAGGTGGCAGCAACTCGAAACAGAGCTGGGAGGT
GTGGCCAAGGGCCTGGGGAAGGCAGGGCGGGCAGTCGTCTTCCAGGATGTCTCGTGGAGG
TAGAAGAGAATTCCAACCTCATCCCAGCTCTGTGACGCTGGACAAGTCTGCCTCCCCAAGG
CTCAGGTGACTCATCTATCAAGGGAGGCAGGAGCCCCACACTCAAGGCCGTGAGGGGTGC
ATGAAATACGGTGGGCAAGAGCGCCTCACACCAAGTCCACTCTGTGGTAGAGGCTAGACC
TGCTGCCCCGACCCACTCAGCCACTCAGGAAGGGTGGAAAGCAAGTGTGGCACGAAACACCG
CACTCGTCCGTGGGATTGTGAGAGGCGAGGAGAAGGAATTGAGCCTCTGCTCTTCCATGT
GGTGAGATGCGGATGCAGAAGCCCTCGGGGGCTGGGGCAGGTGAGGCTGCGTAGCCTCGA
GGGAAGCTGTCTATGAGAGGTGTGGGCCCTGTGGTGGGACAGAGGGAACAGCACTGGATAC
TGCTGCACCTTGGTTAGGGGCTAAGAGCTTTTTTTTTCTTTTTCTTTTTCTTTTTTGAG

FIG. 9D

ACAGAGTCTTACTTTTCGCCCAGGCTGAAAATGTAGTGGTGCCATCTTGGCTCACTGCAACC
TCCGCCTCCCGGGTCCGAGTGATTCTCCTGCCTCAGCCTCCTGAGTAGCTGAGATTACAG
GCTCTTGCCACCATGCCCAGCTAATTTTTGTATTTTTTAGTAGAGACGGGGTTTCATCATG
TTGGCCAGGCTGGTCTTGAACCTCCTGACCTCAGGTAATCCGCCTGCCTCGGCCTCCCAA
GTGTTGGGATTACAGGCGTGAGCCACTGTGCCTGGCCTCAAAGAAGTCTTACTATATACT
TGGTGATTATTTTTAAGGTTTAAAAATAATACTAAAAGCTGGTTCCTTGGAGCAGAAGG
CTCAGGGGACAGGCTGGGGTGATCTCACCACCTTCGTGGTCTCTGAGGACCGGCTCTGAGG
CAAGTGGGGGATGTGCGGGGATGGCATGGGGAAGGGTGCACGATAGAGTGACAAGAGCTG
AGCCAAGGACAGTGGGAGAAACAGACGGGGAGGCTGGCAGGAAACGTGGAGCTCGGGTCA
CCCGGTGGGAGTGGTGGCCACTGGGTCACTGCTGGAAGGAGGTGCACTCACCAGGAGACCC
TGGGAGCCCCCAAACAGGGACAGCTCATCCAGGGCGAAGTCGGCATTGAGGAAGGCGAAG
CTCTCCAGGATGCACTCCATCAGGCTCTCGGCCGAGGTGTGCTCCTGCCGTGCTCTGCAG
GGCTGTGGACGAAGTGGCCAGACCTGAGGGCAACACCGGGCCCCACCCACCCGACTGGGA
CACTGGCCAGGGGCTCACGGCAGACTTGGGCAATGTCCCGGTCCCAAGCCCCAATCCCA
CACACCGTCCCCCAGCAGAAGCCCAGCCGCTGGCCCAAGGCGTGGCACTGGGCGTGTAC
CCCCCAAAGTCCCTCCTGAATGGCCTGTGACAAGGTAGGAGCAGAATCTTGAGGGGGACA
GATCTGAAAACCTTCCCTGTATCTCAGACACCCACGGGGACAAGGCCAATGGCAGGAGT
GAGTGAGCTGCCCCAGCGGGGACCAGGGAGGAGGAGCGCAGGTGCCTCCCCTAAGAGGG
GGCCACGCTCATAGATCGCCAGTTCTAAGAAAACCTAAAACATGGATATTTATGGGAA
ACTGCCCAGCTTTGAAATACCAACAACAAATTTCAAAGTATTTTAAATACATGGTGTAGG
TCAGGCAAACGCTTCTTCACGAGGCTCAGAGGCTGTGGGCTCCAGGTTCTCCTCCCTG
TTGGGTTTCTCTCCCCAACAGATTAAGGGAGAGTGTGGGGCCACCAACCCGCCACTGGT
CAAGTCACCAGAGCCTCCAGTGCCAGCTCCCTCCCTGGAGATTTCTGTCTTGTCCCCAAC
TCGTGGCTGGCTCTGGGGCTGGTTCCCTGCCCCCGTTCCCAGCACACCCCCACCCAGGCCTT
GTGTCCAACACAACTGCAGCCAAGGCACAGCCCAAGCAGAAGCCATAAAACCAAACCAG
GATCCTAACTGCGGAGCCAAAGAGAAAATCTTGAGGACGAAGGGAATAACAAGGCTAGTT
GCAGAGATCACATTTTCCAATACAAAAATATAGGCATACATGTGTATGTAAGTGTGTATC
AATACACACATGCATGTAGACTGCTGATTCTCAATAGTCAAGGTAGTTATGTTCTAGAGG
CCAAGGCGGGCAGATCACTTGAGGTGAGGAGTTCAAGACCAGCCTGGCCAACATGATGAA
ACTGCATCTCTACTAAAAATACAAAAATTAGCCGGGTGTGGTGGCACAGACCTGTAGCCT
CAGCTACTCAGGAGGCTGAGGCAGGAGAATTGCTTGACCCGGGGAGGCGGAGGTTGCAGT
GAGCCAAGATTGCACCACTGCGCTCCAGCCTGAGCGACAGAGCAAGACTCCATCTCAGAA
AAAAAAAAAAAAAGGAGGGGGTTATGTTCTATAAAATCACAGCAAAAAAACTGAATCAGC
AAAAGCTGAACCATTGCTCCTAAGGGAGTTACTGGGTTAGGTTCTGTGAACCTCTGGTC
ACAGCAGTTTTATCAACTCAGCAATGCAGAACTTTGTATGTGTCTTTTGGTTTTAAAGACA
CCTTATTTAATAGCTATTGTTGGCTGGGTGTGGTGGCTCACACCTGTAATCCCAGCACTC
TGGGAGGCCGAGGCAGGTGGATCACCTGATGTCCGGAGTTCAAGACCAGCCTAGCCAACA
TAGTGAAACCTGTCTCTACTAAAAATACAAAAATTAGCCGGGCATGATGGTACGTGCCT
GTAACCCAGGTACTAGGGAGGCTGAGGCAAGAGAATCACTTGAACCCAGGAGGTGGAGG
TTGCAGTAAGCTGAGATCGTGCCACTGCACTCCAGCCTGGACAACAGAGTGAGACTCCGT
CTCCAAAAAAAAGGAAAAAAAAGCTATTTTTTGATTCAATTAACATTGAACTCAACAGC
CAGCATCGCTACAACCTCATGCCTGAAGGAAGCTCATCTAACACACATTTTCTCTGTAAGG
TATTTACAGGCTTCCTGGAAGTGAAGAACACCAGCCGGCACTGAAGCTCTGGGCTTGGGA
GGCATTATAACAGTGAACTGTCAACAAAAAGCACAAAACTTGAAAAACATGGCATTAA
ATAGACCATGAGGACACTTGTTTACCATTGGGCATTGAAACAGGAAGGCAAAGCATTGC
CTCGCTTGACCTCAGCTGGGAATGTGTGCTTTGAGCAGCTCAGATTTTCTATCACTCTGC

FIG. 9E

CCGGCCCCAAAACCCACTTTGGAATCGCCTCGAGTATTGATTTGGGGGTTAGAAATAAAT
TTTAGCAAGTAAGTAAATTCCAAAATGCAGAATCCACAAATAATGAGGATAAATCATGTA
TATGTATGTGTGTATGTATGCGCTCACACACACACTTTTTTTTCTTTTGAGAGAGAGAGT
CTCGCTCTGTTGCCAGGCTGGAGTGCATTGGTGCGATCTTGGCTCACTGTAACCTCCGC
CTCCCGGGTTCAAGTGATTCTCCTGCCTCAGCCTCCCAAGTAGCTGGGACTACAGGTGCA
CGCTACCATGCTCAGCTAATTCTTTTGTCTTTTGTAGTAGAAACGGGGTTTTGCCATGTTG
GCCAGGCTGCTGTTGAACTCGTAGCCTCAAGCAATCCACCTGCCTTGGCCTCCCAAAGTG
CTGGGATTACAGATGTGAGCCACTGCGCCACCATCATATACATAGATTTGCATAAAT
GTGTGTGTGTGTAATTTCTCTCCAGAAAGTCAAACCAAAAACACGGTCTGTAATCAATT
TGCATTGTTCTGACTTCGTTTGCCAAAAAAGAAAAGTTCCTTAAAGACGTTTAAAATGA
TTACATTATTGCGGCATTAACATTTTTATGTAAATTGGGTGTAATTTTTCAAATAACAAG
TATGTGACAAATGTGCATGCCGACTCAAATTAGTCTACAAAAAAGGCTGTTAAAAGTA
CAAAAAGGTACAGGCACGATGGCTCACGCCTGTAATCCCAACGCTTCGGGAGGCTGAGG
CACGAGGATTGCATGAGTCCAGGAGTTTGAGACCAGCCTGGGCAACAAAGTGAGAACTCG
TCTCTATAAAAAATAAACAAAATTAGCCAGGCATGGTGATGTGTGCCTGTAGCCTCAACT
AGTCAGGAGGCTGAGGGGGGAGGATCGTGTGATCCCAGGAGGCAGAGGTGTCAGTGAGCC
AAGATTGCACCACTGAACTCCAGCCTGGGCAACAGAGTGAGACCCTGTCTCCAGAAAAAT
GAAAAACATGAAGTACCAAAAAGTTGACATTATTTCTTAAATTTTTTCTGGAAATTTTC
AGGCAGGTCTTTTTTAACAACCATAGTAGTGGTAAACGGAACATATTTTAAAGTTATGGA
TGTAATATGAGAAATTAACTTTTTTTCCCTATGTTGATTTGTCCTGTTGGAGGTGTGG
TTGGCGATAAAATGTGTTTGAAGAGAGCTGTAACTATTTTCAGTGCCAAAGTGTATCTTA
CACAAAAGAGGGGAAAACAGAAAACAGCAAAATCAGAGAAGTGCACAGCCAGTCTGAGGG
CATAAGGACCGAGGGAACACAGAGCAGGAAGGGATGGGCCTGCCGGGGCCAGGTGGGAGT
TGCCATTTAAAAGAGGGGTGTCCAGGCCAGGTGCAGTGGCTCACGCCTGTAATCCCGGCAC
TTTGGGAGGCTGAGGCAGGCGGATCACTTGAGGTGAGGAGTTTGAGACCAGCCTGGCCAA
CATGGCGAAACCCCATCTCTACTAAAAATACAAAAATTAGCCAGGCGTGGTGGTGTGCAC
CTGTAATCCCAGCTACTCGGGACGCTGAGGCAGGAGAAATGCTTGAACCTGGGAGGAGGA
GGTTGCAGTGAGCCGAGATGGCGCCGCTACAACTCTGTTGCCAGCCTGGGCAACAGAGCG
AGACTTCATCTCAAAAAATAAATACATAAAAAATAAAAGAGCGTGTTCAGGGAAGGACAC
CCTTAAGTTAATTGATGTATTAGTAGGTACTAGTGGTATACATTTTTTTTGATGTACATTC
AAATTTGTGTAAACACGAGAGGAGAATGTAATAATTTGCCTAGGTGAGCACCTCTGAAAG
CCACCTGCCACCTAAGCCCTCCTGTGAACTGAGAACAGCCCCGGGGTATGAGCCCTGTGG
AGAAGGTTGAGTGCAGGGGTGCGTGGATGAGGCAACAGGGAAGTGTGTGGGGCCTTCCAT
GGAGCCAGCTGCGACCTGACAACACTCCAAGTTTGGGTTTGTAGCCACAAGCCACAGCC
CCGCCCACCCAGGTGAGAAGGTGCGAGATGGGGCCAGTTTCTGGCTGGATGTGCATGAGC
CTATCTACTGTGAACTCTTAAATCTTCCTGAGCCCCATGAGGGCTGTTGTTATCCCCGC
TTGCCAGATGAGGAAACCAAGGCCAGAGAGACACGGCCACCCAGGTACGCAGAGGTG
AGGCCAGGATGTGCGCCAGGCTGCGTGGCCCCAGAGCCCCCGACTCCCAGTCATCATGC
CATCAGCAAAGCAGGGCCACCGCCCGGGGCGGGGTGGCCATACCTTCAGCCGGTCCCGGA
AGCCGAGGACCTGGTACTCCAGCTCCCGGAGCTGGGGCTGGGTGGAGTCCGTGGGCCTCA
GCAACTCCAGGACCTCCTGCAGAGGCCCTCGAGGGCCACGCCAGGCCCCGTCTCTCTGT
CCCCGGTTGCCCCCTTCTCTGTCGCGTCTCTGGCTACTCGAGGCTGTGCCGCTGTGGAACA
GGGAGCCCTGTGGCAGGCTGGGGCTCTCCCTCCTAAGTTCCTCCAGCCAGGCTGCTCTG
CAAACGGGCCTCCAGAGAGGTGGGCCATCTCTGGCAGGAGACCTGGGGGCAGGGGTCTT
CCCGAGCCTCCTCTTCAATGGAGGCGTGGGGACCGAAGGTCAAGGGCAGGAAGCCACAT
CTGAGGTGGACGCCGACGTGCTGGTCTCCGTGTCTCGGGGTCTCAGAGCTGAAGGAGT

FIG. 9F

CCATCTCAGGCAGCTCCTGACTCTGGCTTCTTAGGCTGGGACCCCGGAGGTGCTGTCTCAG
ACAGGTAGCTGAGGATGGAGGTGGCCCTTGGGCCACCCAGCAGCAAGGCCTGCTGTGTTG
GCTGCTGTAGGACAGACTGGAGAGGGGACACGGGAGCGGCCTCACCAGCCACCCAGGGA
CCACAGCAAGTCCCCCAGAGGGGCTTCCCCTGACAGACACCCGCTGTGCATGCCCATGTT
CTCAGGATGACTGAGGCCTGCCGAGGTGACCAGCATCCCAGAGGTGCAGAAAAACCCCTG
TCCCCTCTCTGCACTTATCCCCCATCCCGCCTCCAACCTCACTCCCCCAACCTCAACAGC
CTCCTGGCTATTGCTCATGCCCTGTGGGCTGGGCCCCACGTTCTGCTCAGGGCCTTTG
CACTGACTGTGCTCTCGTCAGAACACTCTTCCCCTATGTGCCTTCATGGCTTGTGCCCTCG
CCTCCTCAGGACCTTACATAGGTGTCACTCTCCTGAGAACCCTGTCTGGACAGCCTTT
TTTAAGTGGCAATTTCTACCTGGCCCCAGTGGGCCCCCTTCCCTTCCTGCTGTCTCCACA
GTCCTTATGCCCCCTGGGGCTGGCTGTGCACTTCTCGGATTTTGATATCATCTGTTTCCCC
TGTAGAATTTTCAGCTCCCTGAGGGCACAGTCTTGGCTGGCCTGGAGCAGAGGCTGGCAT
ATAGTTTTCGGTTTTTGTGTTTTGTGTTTTGAAATAGTCTCGCTCTGTTGCCAGGCTGG
AGTGCAGTGGCACTATCTTGGCTCACTACAACCTTCATCTCCTGGGCTCAAGCAATTCTC
CTGCCTCAGCCTCCTGAGTAGCTGGGATTACAGTGGCACTCCATGACGCCTGGCTAATTT
TTGTATTTTGTAGTAGAGACGGGGTTTTACCATGTTGGCCAGGCTGGTCTCAAACCTCTGA
CCTCAGGTGATCCACCCGCCTCGGCCTCTCAAAGTACTGGGATTACAGGCATGAGCCACT
GCACCCAGCCTAGTTTTTGGATGAATGAAGTGAATGAATGAATGAAGGGCCTGACAAACAC
ACCATAGAAACAGCAGCAGCTGTCAATTAAGTATTCTGAGGTTGCCGGCCCTATTCCAGGG
CCTTCCCATTACCTCACCACACCCCATGGGGGTGGCACTGCCCTAACCTCGGAGAGGTC
CTTAGGCCACACGGGTGGTGAGTACAGTGCCACAGTGTGAATCTGGGTACACGGACACGA
ACCCTTACCTCTCATCAGCTGAACCAATGATAATGGTTGATGTTCAATTAACCTCAGTTAAC
TCTCACAGTAATCCCATAAGGGCAGTGCTGTTATTCTCACTTCTCTGATACAGAAATTGA
AGTCCAGAGAGGGCTGGGCACGGTGGCTCATGCCTGTAATCCCAGCACTTTGGGAGGCCG
AGGCGGGTGGATCACCTGACGTCAGGAGTTCAAGACCAGCCTGGCTAACATGGTGAACCC
CCGTCTCTACTAAAAATACGAAAATTAGCCAGATGTGGTGGCGTGTGCCTGTAATCCCAG
CTACTCGGGAGGCTGAGGCAGGAGAATCGCTTGAACCTGGGAGGAGGTGGAGGTTGCAGT
GAGCTGACATTGCGTGACTGCACTCCAGCCTGGGAGACAAGAGCGAACTCCGTCTCAAA
AAAAAAAAACAAAGAAAAAAAAAAGGCGTATACACTTGCTGGTAGATGGATTGCTGTCTCT
GGAAGAATATGGAAGAACTGATGACAGGAGTTGGTATTAAGGAGGGGACCCTGATCCAT
GGAGATCAACAGGAAAGATGTTTTACTGGGCACTCTGTCAAGTACTACTAGAAACGT
ATATATTAAGGCCAAGGCCATGACTGGGGTGCTAGAACCATCCAGAGAGCCCACTGCAGA
TGTCTGAAGAACCAGCCAAGCCCAGAACCAGGCTAGGTTGGAGGCTGGCAGCAGAGGA
AGAAAGTGCACAGGAAAACACCCAGGATCGCCTCAAACGGAAGCTGAGCCCGAGGCTTGC
CATGTCTGGGAGGGCCAGACTGCTCAGCCCAGCTCCTGCGTGCTGCCCCCATCCCAGGGT
GACCACAGCGGCCCTGCCCCGGAAGGCTCACTCACCAGGTAGTATCTCTCCCGGAAGCT
GGGGGTGCTCGGGGGTGTCCAGTTGTACAAGGAGCCCTTCTGCTGCCCCATAGAAAACCTT
GCCCCGTGGGGCTGGGTGACACCAGGAAGCTCTCAGTATCAAACGGGCTGGAGGAGAGAAC
AGAAGGTGAGGATGCCATCGGCACCCAGAGGCCATTTCAGGCCCAGACGGCCCCACAGGGC
TCTTAGGTTATGCAGGTAGATGGTCTTCATCTTACAATACAATAGCATGGATGGTGTGTG
AGGAGCTCTGCTCTAAACTGTTGCTTGTGTTTTTGAGACAGGGTCTTGCTGTGATGCCCAGG
TTGGAATGCAGTGGTGCCACCACAGCTCACTGCATCCTTGAACCTCGGGTTCAGGCGAT
CCTCCTGCCTCAGCCTCCTGTGTAGCTATGACCACAGGCATGTACCACCATGCTGGACTA
ATTTTTAAATTTATTTTTATTTTTGTAAAGACAGCGTCTTGCCATGTTGCCAGGCTGG
TCTCGAACTTCTGGGCTCAAGCAATCCTCCTGCCTCAGCCTCCCAAAGTGCTGGGATTAC
AGGCCATGAGCCACTGAGCCCAGCCTCTACTAACTCTTTACACAAATCCTTATTTCCAC

FIG. 9G

CCCCAAGACAACCCTCTGTGGCCTGGAGAATTATTTACAGGGGAGGAAAGGAAGGCTCTG
AGAGATGAGTGACTTGCTTAGGGCAGTGTCAACAACCAACGCGAGACGGAAGTGAATT
CACACACAGATTTTCTCTGACCCCAAAGCCTTAAAGATCACTAAGAGTGATGCTTACTCT
TCAGACATCACTGTACTTAATGGATTTAAGAGGAAATGGGCTGGGTGCTGTGGCTCACAC
CTGTAATCCCAACACTTCGGGAAGCCAAGGCAGGCAGATGACTTGAGCTCAGGAGTTCGA
GACCAGCCTCCATAACCTGGCAAAACCCCGTCTCTACAAAAAATGAATACATTAGCTGG
GCTAATGTGGTGACCAACAGACACTTGTAGTCCCAGCTACTCAGGAGGCAGAGGTGGAAG
GAGCACCTGAGCCTGGGAGGTGGAGGCTGCAGTGAGCCGAGATCATGCCACTGCTCTCCA
GTCTGGGGCAACAGAGCAAGACTCTATCTCAAAAAAAGAAAAAAGCAAAAT
AAAACAGGAAATGGAGGCTTGGGCCTCCAAGTCCAGGGCCTTGCCCATGGTTCACAGGTGC
AGCCTAGGAACTCCAGGTTACATGACCTCTACCCCTTTAGAAACCTTTCTCAAGGCTGGG
CGTGGTGGCTCATGCCCTGTAATCCAGCACTTTGGGAGGCCAAGGTGGGTGGATCGCCTG
AGGTCAGGAGTTCGAGACCAGCCTGGCCAACATGGCGAAACCCCATCTCTCTAAAAACA
TAAAAAATTAGCTGGGCATGGTGGCAGGCACCTGTGATCCCAGCTACTTGAGAGGCTGA
GGCTGGGGAATCGCTTAAATCTGGGAGGCAGATGTTGCAGTGAGCCGAGATTGCGCCATT
GCACTCCAGCCTGGGCGACAGAGCGAGACTCTGTCTCAAAAAGAAAAAAGAAACCTTTC
TCAGACTCTGACCGCCCTGAGGGCCCTTAGCCAGATGGTGAGGGACAGTGACTGTGAGCA
GGAGAGCAGGATCTGGAGGCAGGAAACCTCAGGTCAATTCATGCTAAATCAAGGAAAGAC
ACCAAGGTCTGAAGGGACAGGGAATCTAAGGCCAATTAACGCAATCTTCCTAAAGCTAAC
CCAAAAGGAAAAACCCCGTCTCCCCACACTGAGTAGTAAAGGATCAAAGGCAACGCTCCC
TACAGCCCTCCTGCCTCCAACCATGGCTCAGATGGAAAGGGAGGGTGTATGGATGGGCCG
CTGGCGAAACAGGGACCATCCCTCTATCTGCATAGGGCGCCATCCACCTCAGCCTCTAAC
CACAGACCAAATCCTTTATCCAGAAAAGGGGCAGCCCATAGGAACCTCAAACAGGGTACT
TAAAGCCAGAACTTTGAAACCATGCCCTTGAGCCACATGCTCGGGCCCACTCCCACCC
TGTGGAGTGCTTTCTTGCCTTTTTTTTTTTTTCTTTTTCTCTGAGACTGTCTTGCTCTGTC
ACCCAGGCTGGAGTGCGGTGGCGCCATCTTGGCTCACTGCAGCCTCCGCCTCCCCGGTTC
AAGCGATTCTCCTGCCTCAGCCTCCCAAGTAGCTGAACTATAGGCCCGTGCCACCACGC
CTGGCTAATTTTTGTGTTTTTAGTAGAGATGGGGTTTCGCCTTGTGGCCAGGCTGGTCT
CGAACTCCTGACCTCGGGTGATCTGCCCACCTACGCCTCTCAAAGTGCTGGGATTATAGG
TGTGAGCCACCGCGCCCAACCTGCTTTCTTGCTTTAATAAAGTCCTGCTGCTTCATTCTC
GCGTTTCATTCCCTGCTCCTTTTCTGCATTTTGTTCAGTCTTTGTTCAAAATGCCAGG
GACTTGGACAACTCATTGTCAAGACCCTCCACCAGTAACAACCTGGACACCCCAAGTTAGA
GGCCCTTTGAGAAGCTCAGCCGATGAGCAGGGGACACTCGGTTACAGACCCCTTGTCTGT
AAAAGGGGTGCGCTTACAGAAGAACCCCATGTGGAACATGCACAGGGAAGGGTGGGAAT
CCAGGCGAGCGCATGGGAGCACCGAGGCAAGTGATGCTCAGCCTGGCCCGTGATGCTCAG
CCTGGCCTGTGTCCAGCCTTGCACTCGGAGTAGGTAGGTCCCCATAGATCCATTTGCCTC
GAAGAACTTGCTTATAATTATTTGCACAAAGGCCTGGCTCGTGGCACCTGGGCCTGGCC
TGACCAGAAGGCCTAGAGCTCAGAGGCTCTGCAAGTGCCCACTTCTCTGCCAGGGTGTCT
TGACAGACCCGAGGCACCCCTGGGTCTAGGCTTGATGGCACTGAGCTGCCCGCCACCCCT
GTACACTTCAGGGGGCCCTGGGCGAGGGGTATTCTCAGCCCTACCAGACAGGTGAGGACC
CCGAGGGTGCAGGTGGTCTCAACAGAATTACCCAGCTCACGAGGGAGAGGGGCAGCAG
CTTTGTGACCCCCAGCTCGGACACCCACCCTAGGGAGAGAGGAGAGAGACCAGCCCCGAC
TGGCCAGAGCAAGCACAGAGCAGAGGAGTGTCTCAGCCCTCCCTTCTGCTGCCTCTGCG
CTGAGGAGGAGGAAAGGAACACCCTGGAAATGCAAGGCTTCCTTAGAACAGAGAGCTCTG
GAGCCCTCCACGCTCATGGGCATGCAGTCCAGGGAGTGATCTCATGGACATGGGCTTCAT
GGGTCTGCAGCCGAGAGGGGGACGCAGGTGACCGCTCAGCCCCAGGCCAAGGGGGCAGCC

FIG. 9H

AGGGTCGGCCAGGAATGAGGGGGTGGGAGCAGCAAGGAGGGCCTTCCTGGAGAGGTGAGC
CTCCTCCAAGGAGCCAAGCCCCGGGAGGCCCCGGAAGTGTCCCCCAACCTTCCCTGTGG
CTTTAATAGTCAGGGGTTTCAAGCAAGAAGGGAAGCAAAACCAGAAAGGCAGGCAGGGG
CTACAGAGAAGTTCTAGGCCTCGACCTGACTGAGGGGTGGGAGTGAGGGACAGATGAGGA
CCCGTGAGGGCAGGGACACCCTTGGCAGAGGCTGGTGCAGGAACCCAGGGCCAGAGTGTG
GCCAGGCCACCAGGGGCAGCCAGCCAGGCCTCCGCTCTCCCCAGGCTGGACGGGACTCAC
TTCCACTGCACCTCCAGCTGCAGCTTGATGGTACCCAACCTCCGTGATGTCCACCACGATG
ACCTGCGGCCGCGTCGTGAAGAAGTCGGCGATGTACACGTCACTGCACCCACAGCCAGC
GAGCCCAGGCCCCGCAACTCCGTACCTGGGGGTGGGGGCTGGAGGGTGGTGTCTGAGCC
GAACACCCAGGCACCCCAGCCCTGCCCCCGGGCCCCATCCCCACCTTGATGTCCAGGTTT
TCATGCAGCGTGGGGATGAAGGCCCTTCTCCTCTTCGTCCCAGGTCTGGCTGTCTATCTGAC
TCGATCCGACCCTTGAGCTTCCAACGCTGGCGGCCCAGACGCATGAGCACCTGTGAACCA
GCCCCAGAGGGGGCCGCGTCAGCCCAGGTGGGTGTCCCCTTGCTGTCCGCCCAGGGCCCTC
CCTGCCAGGCAGAGCCCCAGCTGCAACCCCTGGTTCCCAGCAGCTCCCGTCCCCCAAAGAC
CTGGCGGGGAGCCCTGAGGATTGACCCAGAGAGTGGCCGTACCTCATAGTGGTCTCCGG
GACAGAGGCGTGCCTAGCCCACCAAGCCTGGAACACAGACATGGCCGGTCTCCCCCTCCGC
CTTCCACTCTCCCTGACCTGGGACCACAGGTCTCTCTGGGGTTCCCCCGAGTATAGATT
TTCAGTTTCAGTGGGGTGAGGATGGGGGGGAGGTACACCATCATGATGGAAAATGGACAG
AGGGTGCTGGGCCCTCACACCAGGCTCAGAGAGGGGTGGGACTTGCCAGAAGTCACATGT
CACATGGATGCAAAGCCAGGGCTGGGCTCAGACCCCTGGGATTCTGGCCAATTCCCGTG
CCCCCTCAGCAGAAGTCTCAGGGCCTCCAGAAAGGCCTCCGCCACCCCCCTCTCAGCCCTG
TTACCTTTTCATCCTGATGTGGAACCTCGCCCAGGTGAACCTCCAGGGCCCCCTCGATGAGC
CACATGTCTGCAAAGCCCCGGAGGTGGCTCAGCTGGCTGCCTGGGGCTAGGCCACGAGG
GCCTCTAACCATCCCTGCAGCCAGACAGAGGCCACAGGCAGAGAGACGCTCCTTGGGGC
CCAGAACACCTCCTCCAGCCCCCACTGGCCCAGCTCTCGATGTCCCCACTGCCCGGCCCA
GCTCTTGCTGCCCTGCTGCCCAGCCCAGCTTGCCCCGGCCCCACCTCGGCGCACTCGTG
AGGCTGCGGCCCAGCTCCTGCAGGCTCTCTCGGGCTGCGCGGCTCGGGGGGACCGGGCG
AAGGCCCGCTGCATGCTGGAGGCGCCGTCGCGCAGGCGGCACTGGATGCAGTAGTCCTCG
TACAGCTCATCCACCTGTGGTGGGCACACGGGCTGGTGGCGCTGCCACGCGGAGGGGCG
GCCCCACACCTGCCTGTCGACTTCTCCTCTCTGGGAGAGGCCCTCCCTGAGCTAAGCACC
CCGCTAGCCCAGCCATGGTGACAGTCACTACCTGTCCAGTCCCATTCAAAGCAGTCACC
CCTGGCCCCAGTAGAACATGAACCCCCATAGGCAGGGACCACATCTGCCTCACCTGCCTC
ACCTGCCACCACTGCCTCACCTGCCACCCCTACCACCCCTGCCTCACCTGCCACCCCTGC
CTCACCTGCCACCCCTGCCTCACCTGCCACCCCTGCCTCCCCTGCCTCCCCCTGCCACCCC
TGCCTCACCTGCCACCCCTGCCTCACCTGCCACCCCTGCCTCACCTGCCACCCCGGCCTC
ACCTGCCACCCCGGCCTCACCTGCCACCCCTGCCAACCCTGTCTCACCTGCCTCTCCTGC
CTCTCCTGCCACCCCTGCCAACCCTGTCTCACCTGCCTCTCCTGCCTCTCCTGCCACCCC
TGCCTCACCTGCTGCATACCCAGCTCCTGGCAGCGACTGGCACACAGTGTGCACAGCAAA
AATGAGTGAAAGGGACAAGGGAATCTGTCCCTTACCTCCTCTGCCTGGTTTTTCAACAA
TGAAATGGGAGATGACTTTGTGATAACCTGCCACCCACTGGGCAGTGTGGGGAGTAAAGC
AAGATCATGAAACCGTTTGCAGACTCTAAAGCTTACAGATCTGCTATGCGACCTTGGGCC
AACCCATGTTTCATCTCTGGACCTCTGCTTTTCCAACGTGTACAATGGGCTGGGAGGGCTCA
ACCTTCCCAGCCATCTAAGACTGAGCATGAGGTCTTTCTGCATAAACTGAAGAAAGAGCC
CACACAGTCCTCAGGGAGTCCCACCTCAGGGCTGAGCCCCCTGACTCCCACCTCAGGGCT
GAGCCCCCTGCTGTCTTCAACTGGCCCCGAGGCCCTGCTCATCCTTAGCCTCCTGCAGCT
GCCCCATACCCAGAGGCCCTGATCCCTGTTTCGAGGGCACCTCCCCAGCTCCTGCTAACC

FIG. 9I

TAGCTGAGGCCAGCAAGCTGGCACTGCCCCACCCACCCTGCAACATCCACGAGCCAGC
TGACCTTGCTGATGTGAACTCCATCTTCCGAATGTGCCTTTCCACACAGCGCTTTGCT
TCTCCCGGAAAAAGGGAAGATGTTTGCAAAGTTGCCTGGGCCACCCACCTGCCCCGCTTG
CCCCTGCCACCCTCCTACAGGTCCTAACTCAGAGAATGGGGCCCCCTCACCATCCCTGAGG
AAGGCTCATCGCAGAGACTCAGCCTTCCATTCTCTAAAATGGGGAGGAGACCCAGGTTTT
CTGCCCATCAGGCAGCCAGGAAGATGCAATGAGGCACAGTCATTCTCATCCAGCCAGGCC
CAGCCCACCTCACTCACCGTATGCAGACTCACCTTGTCCAGGTCATAATAGAAAGCCTGT
GAGGGAGGAAAGGAGGGCGGAAGAAGCTGTGAGAGTCCCACATGTTCTTCCAAGGCCTAT
GAGGCTCTATGCTGGCGGCGCCTGAGCTCAGAGTCAGAGGACAGAAAGCCATGTCTACAG
CCACCCCCACCCACTCCTTCTCTGCCAACGGCAGACTGCTGTCCACGCCAAGGACAGCA
CTGATTAAACACATGCACGTGGGATGAGGCAGTTCTAGGTCTGGCTCTTCTATTTCCTCAG
CTGCGTGTCCAGGCAAGTCATTGAGCCTTTCTGGGCCTCCGTTTCTCCTATGTAAAGC
AGGGTAGGAGAAGCGCCTACCTCACAGGGAGAAAAAGGACACAGTAGGCCCTTGACAAA
ATGGGAACCATTGAGATTGAAGGAATGGCCTCGGCCATGACAAAAGAACATGAGGGGGAT
GGAAGCGGGAGGGGCACATGGCACAGCAGTTGAGGCCTTAATGGTGAATTCCTAAGTCTA
TCCATTCCAGGGGCCAGGGTGGACCAACACAAATAATATATCATCAGGGCAGGCAAACC
TTTCTATAGGTTTGTAAGGGGCCAGAGAGTAAATATTTTCAGGCTTGGCAGGCCACGGCGC
CCCATGCCAAGATCTATAAAGTAGGACCATCCTGGCCAGGCGCAGTGGCTCACGCCTGTA
ATCCCAGCACTTTGGGAGGCTGAGGTGGTCAGATCACTTGAGGTCAGGAGTTAAGTCCA
GCCTGGCCAACGTGGCGAAACCCCATCTCTACTAAAAATATAAAAAGTAGCTGGGTGTGG
TGGTGCATGCCTGTAATCCCAGCTACTTGCCAGACTTGAGGCAGGAGAATCACTTGAACC
TCAGAGGTGGAGGTTGCAGTGATCTAAGACCGTGCCACTGTACTCCAGCCTGGGTGACAG
AGCGAGACTCCATCTCAAAAAAAAAAAAAAAAAAGAAAAAAAAAGTAGGACCATCTAAACATA
CACACCTTTGCCTACCTTAGAGTTACTTCTAGAACCAAGAAAGAGTGTGAAGTGGACCTA
AGACATGGGAAGTGCTGTACCTGCCTGTGGGGTTAAATTCATCAGGGTCAAAGTTTTGTCT
CTAACTAAGCAACTCTGCCATCATAGTGGGAAAGCAGCCACAGACAATATGTACATGAAC
AAGTGTGGTCAAGAAACATTTTTTTTAAACAAGTGTTTAAAAAACTCTTGTTTTTTAAGT
GACTCTAATTTTTAAAAATATAGTGAAGTCTAATTTTCTGCTGTTAATTTCCAGTGGAGA
TTAGAGTCACTATGTCTGAGTCTGGAGGGGTACCATGGGGTTGTAGATCCACCAGGGAG
GAAAAGTAAGCTGTAGGAGAGTATGTAAATTGACATTTTCATTTTTGTAAAGACAATTTTAA
CTCACAATTGCTAAACACATTTACATGATTATGTGACCAGAGAGAAAAATATGGAAAGAT
CAATAAAAGATTGTTCTCAAGGGTTAAACGGGATGGGACACGGAAGATTGAATAGAGGAG
GGCGTCAATCGAGAAAGAAAGAAGGATTCAACCCCAAAAAGTCCCATGTATGTATTTATG
TGGAATTGTACATATGCGATAATGAAATAAAAAATTCATTTAAGCCAGGTGAAGTGGCTC
ACACCTGTAATCCTAGCACTTTGGGAGGCCAAGGCAGGAGGATCACCTGAGCCCAGGCAT
TCAAGACCAGTCTGGGCAACACAGCAAGACCCCATCTCTACAAAAAATTTAAAAATTAAC
TGGGCATGGTGGCACACACCTGTAGTCCCAGCTACTTGAGAGGCTGAGGTAAGAGGATTG
CTTGAGCCCAGGAGTTTGAGGTTACGGAGAGCTATGATCGTACCACTGCACCTTCACCCTG
GGTGACAGAGTAAGACCTTGTCACTTTAAGAATAAATAAATAAATCTTTTTTAAATTA
GAAACAATTTAACTCCATTTAAGAAATAAAGAAACAGGATGGGTGTGGTGGCTCATGCC
TATAATCCTAGCCTTTTGGGAGGCCGAGGTGAGTGGATCACCTGAGGTCAGGAGTTGGAG
ACCAGCCTGGCCAACATGGTGAAACCCCTCTCTACTAAATAAAAAATACAAAAATTATC
CTGGCATGATTGTGCGCGCCTGTAATCCTAGCTACTCAGGAGGCTGAGGCAGGAGAATCA
CTTGAACCTGGGAGGCAGAGTTTGAGTGAAATGGAGATCGTGACACTGGACTCCAGCCTG
GGTGACAGAGCGAGAATCCATCCCGAAAAAAGAAAAAGAAAAAGAAAAATAAATAAA
GAAAGAGGAAAGATCCCAAGCCTTTGAAAAGAAGAGTACTACCCAGCAACGTCTCAAAA

FIG. 9J

[illegible]

FIG. 9K

TTCTACTGTTATTATATGCATTTTCTTTCTTTCTTTACTTATTTATTGTTTGAGACAAGG
TCCCCCTCTCTCGCCCAGGCTGGAGTGCAGTGGTGTGATCACAGCTCACTGCAACCTCT
ACTTCTGGGTTCAAATGATTCTTATATCTCAGCCTCTTGAGCAGCTGGGACTACAGGTG
TGTGCCACCACACCTGGCTGATTTTTGTATTTTAGTAGAGATGGGGTTTCACTATGTTG
GCCAGGCTGGTCTCGAACTCCTTGACCTCAGGTGATCTGTCTGCCTTGGCCTCCGAAAGT
GCTGGGATTACAGGGGTGAGCTACCGCATCCAACCTAGTATATGCATTTTAAAGATAGAC
AAACCAACCCTTGAAAGCAGCAAGTACCCAGCCCCGGTCACACAGCAGAGAAGAGGCTG
AACCACGTCTGAAACCACACAGTGGCCTTCTGAGCCCAAATCTTCATCCCCATGTTAT
ACCCCTCCCAAGCTGGGGCCCAGCTCATGGGGAGGTCAATCATGGCACACCTCCCTCAAG
GTCAAGGGTCTAGGCCGGGCGCCGTGGCTGACGCCTGTAATCCTAACACTTTGGGAGGCC
GAGGTGGGCGGATCACAAGGTGAGTAATCGAGACCATCCTGGCTAACACAGTGAAACCC
CATCTCTCTAAATAACAAAACTTAGCCGGGCATGGTGGCACACACCTGTAGTCCAG
CTACTCGGGAGGCTGAAGCAGGAGAATTGCTTGAACCTGGGAGGCAGAGGTTGCAGTGAG
CCGAGATTGCACCACTGCACCCACCTGGGCAACAGAGCGAGACTTCATTCCAAAAACAA
GAAGGTGGGGGGCGTCTAGATTTGGGGGCCAAGGCAGGGAGTCCCATCTTGCTGGATTTG
CTGAGTCATCCCAGGAAGGTCACTCACACTCTCTGGGCTCTACTGACACCACCTCAAATG
TGAAAAGATAGCTTCTGCCAGACTGCTACTCACTGAGGTATTGAGCTCTCTGGGAAGAA
GGGGCTGCCTTGGCCCCAGACAAGTCTCAAACATGTGGTCCCTTAAAGGACACAGAATCTG
TCCTTCAGAAACATGCTCTATCGTCCATGCACATCCCAGCTCCCACTCTGCACAATCCCA
GCTTGCTGCAGCCTCCACCTCTACAGGATTTTGCCATATTCCTATGCTGGTCTTGAACCTC
CTAGGCTCAAGGAATCTGCCTGCCTCGGCCCCCAAGTGCTGGGATTACAGGGTAGCCA
CCGCTGTGCCAGCCAAGGATGTCTATTTTGAACCATTTCATTCTAAGGTGGTTTCCC
TTTTTTTTTTTTTTTTTTTTTTTGTAGTCTTGCTCTGTCTCCTAGGCTGGAGTGCAATAACGC
GATCTTGGCTCACCACAACCCCCACCTCCCGGGTCAAGTGATTCTCCTGCCTCAGCCTC
CCGAGTAGCTGGGATTGCAGGCATGCCCCACCACGCCGGCTAATTTTGTATTTTGTAGT
AGACGGGGTTTACCATGTTGGCCACGCTGGTCTCAAACCTCCTGAATTCGTGATCCGCCT
GCCTCCGCCTCCCAAAGTGCTAAGATTACAGGCCCACTGCGTCTGGCCTGGTTTCAACTT
TTACTTGACTCTGGTTCCTCTTTGGGGTGCCCCATCTATAAATAAGAGATGTAGGGGCTG
GGCGTGGTGGCTTATGCCTGTAATCCCAGCACTTTGGGAAGCCAAAGCAGGTGGATCACA
AGGTGAGGAGTTCAAGACCATCCTGACCAATATGGTGAAACCACGTTCTATTAAAAATAC
AAAAACAAATTAGCCGGGCGTGGTGGCAGATGCCTGTAGTCCCAGCTCCTCAGAAGTCTG
AGGCAGGAGAAATAGCTTGAACCCAGGAGGCAGAGGTTGCGGTGAGCTGAGTGAGATCACA
CCACCGCACTCCAGCCTGGGTGACAGAGTGAGACTCCGTCTCAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAGGCGTAAGTAGGAGAGAATTTAGGGTCTAAGTACCACTATATCTGGG
GAAATCACTCCAGAAACCACTCTTTGGCCACAGGGCCCCCTGTCATCTGGTCCCCATT
GCCCCATAACCTCATCCTCTTTCTTTGGCTCTAGCCACGCTGGCCTCCTTGCTGCGCCC
CAGGGCCTTTGTGTATGTGGCTACCCTGGCCTGGAATGTTCTTTTCCCTTCAGGAGTGT
GCTCCAATGTCACCTTCTTAGCAAGGCCTTCCTTCCAACCTGCCCACTTAAATGAACCC
TCCCTGCCTCTGCCTGCTTACCCTGGCCTGTTTCTCTGTGGCCCTTACTACCATCTGA
TATTCTCTGTACTTTTCTTTCTGTATTGTGTATTGTCTGTCTCTCCCCACTAGGAGTC
AGCTCCACAGGAGGTAGGATTTTGTGTGTTTAGTTTACTTCTGTCCCCTGGCCTGGCAC
TCTGTAAGCCCAATAAATATTTGTGGGCTGGGCACAGTGGCTTATGTCTGTAATCCCAGC
ACTTTGGGAGGCCAAGGCAGGCAGATCACTTGAGTCAGGAGTTCAAGACCAGCCTGGCCA
ACATGGCGAAACCCAGTCTCTACTAAAAATACAAAATATTGGCTGGGCGCGGTAGCTCAC
ACCTGTAATCTCAGCACTCTGGGAGGCCGAGATGGACAGATCACCTGAGGTGAGGAGTTC
GAGACCAGCCTGGCCAACGTGGTGAAACCCTATCTCTACTAAAAATACAAAAAATTAGCC

FIG. 9L

AGGCGTGGTGGCAGGTGCCTGTAATCCCAGCTACTCGGTAGGCTGAGGCAAGAGCTACTC
TCAGCCTCTGCTTTCTCATCTGTAAAAATAAGGAGGCTATGCCAGGTGCAGTGGCTCACGC
TTGAACCCAGGAGGCGGAGGTTGCAGTGAGCTGAGATCACACCATTGCACTCCAGCCTGG
GCAACAAGAGCAAACTCCGTCTCAAAAAAAGAAAAAAAAAAATTAGCCAGGTGTGATGG
TGCGTACCTGCAGTCCCAGCTAGTTGGGAGGCTGAGGCAGGAGAATTGCTTGAACCCAAG
AGGCAGAGGTTGCAGTGAGCTGAGATTGTGCCACTGCACCTTGAGCCTGGGCAACAGAGCG
AGACTCCATCTCAAAAAAAAAAAAAAAAAAATTTGTGGAGTGAATCATCCTTCTTGTC
AGGCCTCGGCCAGCTCATCAGTTGGTCTCTGAGCAAGTCTGTCCTTCACTCAAACACCC
ACCGCCCTGACCTCTTGCGTGTGTGGGCTCACAGTGCAGGCTCCTACTGTGGGGCCTTTG
CCCACACTGTTGCCTGTCTGCCGAGGCCCTCGACGCACTGTCTCTCTGTTACCTTTCTTC
ATTGCACTCAGCACAGGTGGAAGTTCTATGATTGATTGCATTGCTTCTTGATTGATTGCA
TTGAATCTGCCCTCTGCAGTGCCTGCTCCACAAGATCAGAGTCTCCTGCCTTAGTCAC
TGCCAGGTTTCCAGTGCCCAAGGACCGGGCTGAGCACGCGGCTGCACCTGACATACTTG
CTTACTAAACGAATGACCAGGAACCTAACCTGTACCTCTTGTAGACAAGACCCATCCAC
GCTTCCCCAGGAAGAGACAGAGAGGAGGCGAGGTAGAGGAATGCACTTCTTAAAGGCAGC
ACACAGCCCAGCCTTACTTGAGGCCTCTTTTCAATGCTTCGAAGATCTTCTTCACTGTCT
GGGGCTTCGGGTCTGCACAGACCGACCCCTTCCGCAGCGTGCCGTACATCTTGAGGATT
TTGCAGGCATTTCGCGATCTCACGGAGTTCTGTGATGGACTTTCTGTGAGAAGGGTTGG
AGGGCAAGAGAAGTCAGAGAAGGGCCCTGACAAAGCCCTCCCCAGGGGCAGGCACTTTGG
AAATAGTGACCAGAGCCACAGGGAGTCAGGAGACCCGGCTCAGTCCCACCCCATCACCA
CCAAGCAGTGTGGTTTCCAGAAAGTTATGGAGCCTCTCTGGGTCTCTGCTTTCTCATCTG
TAAATTAGGATCCTGGGCCAGGTGCGGTGGCTCACACTTGTAATCCCAGCACTTCGGGA
AGCTGAGGTGGGTGGATCACCTGAGATCAGGGGTTCAAGACCAGTCTGGCCAAACATGGCG
AAACCCTGTCTCTACTAAAAATACAAAAATTAGCCGGATGTGGTGGTACGTGCCTGTAAT
CCCCTTACTCCGGAGGCTGAGGCACAAGAATCGCTTGAACCCGGGAGGTGGAGGTTTCA
GTGAGCCGAGATTGCATCACTGCACTCCAACCTGGGTGACAGAGTGAGACTCAGTCTTAA
AAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAAGGAG
CCTAGATTTGAGGATTAAAAGAAGAGTAATAAAGCTTTTCCACCATGGCTGCCACTGGAG
AGCAGCAGCCATGGCTCTGCGCTACCCATATGGCCATGGGCCTCAACAAGGGCCACAAGGT
GACCAAGAACGTGAGCAAGCCCAGGCACAGCCGCTGCAGTGGGTGTCTGACCAAATACAC
TGAGTTTGTGCGGGACATGATCCGGGAGGTGTGTGGCTTTGCCCTGTACAAGCAGCATGC
TATGGAGTTACTGAAGGTCTCCAAGGACAAACAGGCCCTCAAGTTCATCAAGGAAAGGGT
GGGGACACACATCCACGCCAAGAGGAAGCAGGAGGAGCCGAGCCAATGTCTTGGCCGCCA
TGAGGAAAGCCACTGCCAGGAAAGACTGAGCCCCCTCCCCTGCCCTCTCCCGGAAATATA
GAACAGCTTGACAAAAAAAAAAAAAAAAAGAACAGTAATAAAAAATCTGGTATCAGAAATGAAC
TTACAGGAAGAAATACAGTCAAGTAGCCCAAATGCCAATGCTCTCTGATCACCATGCTCT
GCCTGTGCAGGCAATGCCGTGTGGGAGGCCAAGTCATAGTCTGTGCTTTACCTTGGGG
CAGCATCTGTTGGCTTTACCTGCCCAGCATCCATCCCCTCCCTCTAGTAGTAGCACCTCA
ATTTTCTCTGGGGCACCTCCCCAGCTCTGCTTTTATACTTGTGGTTTGGGGGAAAGGT
AGCCTGACTAATCAACATGCACACACACATTTGCACATGCACACATGCACACGGGATTGT
TTGGCAAATCCACATTCCAGGCCTGCGTTAGTCAACATATTCTGCTCCCCTGGGCCAAGA
AGTATGGGGATCAAGCCTGGCCAGTAGCCAGCCAGGAGTTCAGAATTACAGAAGGGAGA
AGTGTTTTTTCCCCTGGCATTGCTAACCTGGGGAACATATACCTGGGACTTCCAGCCTCC
TCCTTTTGGCCACCATGTAGGGAACTGGGGCCAAACACAGAGAGGAACAAACAGAGTCAGA
CCAAATCTCCATGACAGTGAGTTCCTGGATCTAGCTATGTCTAAAGCTGAACCTGCCCGT
GGACTTTGCAGTTACATGAGCCAACTGGCTCTCTTTTTTAGCTTAAGCCAGCTGGAGTTG

FIG. 9M

GGAGTGTGGACTGGATGATCCTAAAACTGCCTTTCAGTGGTGATGGCTGGGTCCCTCAA
CATTTAGAGATGTAGCAGCATCTCAAGACTGATTATAGGAGTACGAGGCCAGGGCACCCCT
CATCACAGCACAGAGCTGGTTTCCCTGGCATCTAAGCCTCTTCTCAGGATCCATAACTT
ATCCATGAGGCTGGCTGATGCAGCCTTTGCTCACCAACAGATGTGTTGAATTCTGCTCTT
AGCCCTCTAAAGCCATCAGCCAGGCGCCCTGGCACCAGGCATCACTTAATGACAACATTTC
TCACAAAAGAGACATGGTGGAAATGACTCTTAGATCTAACTTTGGCATCAGTTCTCTTTT
TTTTTTTTTTTTTGAGATGGAGTCTCACTGTCACCCAGCCTGGAGTGCAATGGTGCAATC
TCGGCTCACTGCAACCTCCACCTCCTGGGTTCAAGCGATTCTCCTGCCTCAGCCTCCCAA
GTAGCTGAGATTACAGGCATGCACCACCATACTGGATAATTTTTGTATTTTGTAGTAGAG
ACAGGGTTTCACCATGTTGTCCAGGCTGGTCTCGAACTCCTGACCTCAAATGATCCACCT
GCCTCAGCCTCCCAAAGTACTAGGATTACAGGTGTGAGCCACCGTGCCTGGCTCAGCATC
AGTTATTATAGGGGACTACTGGCCCTTCTCTTCCAACCTCCTCCTCTTCCCAGGGGCGGGA
ATAACGGTATGCTGGAAGCAGCTTCAACCCACCCCTAAAAGCTGGCTGAACAACAAGAGA
GAAGGAACAGGCCCTGAATAGCCTCGTGAAGCAGACCTCCCAACACACACATGCCCTC
ATCCACCCCTTGGCTCTGGACTGCAGAGAGAGAGAGAGAGGAATAACCAATCTCAAGTAA
GCACCTGCATTTTGGGGTTCCTTTTATCAAAGCAACTTCACCTCTACATTAACAACACAC
TACCCAAGGCTCTGTCTTTTCACTGGTAAAATGGGACCACGTAATACATCAGAGGATGGT
GCTGAGAATTCTATTAGATGCCAGGCCCAAATGTGGCACAAGGAGACCTTTTACATGC
AAGCTGTTGTTAGAATCATCACATCCTATCTGTATCTTTCCCCTGGCTCACAGCTTAGAA
AACATTAGGTGCAGGCCAGGCACTGTGGCTCACACCTATAATCCCAGCACTTCGGGAGGC
CAAGGTGGGTGGATCAACTGAGGTCAAGAGTTCAAGACCAGCCTGACCAACCTGGTGAAA
CCCCGTCTCTACTAAACAAAAAATTAGCCAGGCGTGGTGGTGAGACCTGTAATCCCAGC
TACTCGGGAGGCTGAGGCAGGAGAATCACTTGAACCGGGAGGCAGAGGTTGCAGTGAGCC
GAGATCATGCCACTTCACTCCAGCCTGGGCAGCAAGAGCAAACTCTGCCTTAAAAAAA
AAAAAAAAAAGAAAAAAGAAAAATATTAGGAGTTTGGTAAATATTAAGCTCAGCTGAA
CGGGGAAAATACAGTATCCCAAGGGGATTAGAGAACAGAGAACCTGGCCCCCTGCAGGCA
GAGCGGGATAGCGAGTGCACCCCTGGGTGTTCCAGCTGGAGACAGAGGGAGCAAAGGTG
GAGAATGGGACCTGGTATGCTCTGGGAGTGGATGCAAGGAGCAAGGTTTGACCCAGGCAG
AAGTGGGAGTCTGCAGAGGGGCTGGACCTGGGGCCTCTCTAGTTTTTGGGGACCCAGGAT
GTGTGAGAGGAGGAGAAGGGCAGCTCCAGAGAAAGTCCAGCTTCCAACACCTTTACAAT
GACAAGTAATGTCTCTGTAGAGCAGAGAACTAAGCTCAGGCCAGGGCTAGTGGGCTGCT
GAACAGCTGACACCACAAGCCCCAAGGGCCTCAGGAGCCTGGTGAGAACACGTGAGCCTAA
GTAAGTGGGGGCACCTGCTGCCGCCAGGAGCTCGCTAAGGGCTTTATAGAAATATCTCGA
CTTTCACAACCACCTAGGAGACAGGTATTATTCTTATTATTATTTTGAGATGAAATTTT
GCTCTGTGACAGGCTGGAGTGCAGTGGCAGCATCTCTGCTCACTGCAACCTCCGCCTCC
CAGGTTCAAGCGATTCTCCTGCCTCAGCCTACCCAGTAGCTGGGATTACAGGCATCTGCT
ACCACGTCCAGTAATTTTGTTTTTTTTAGTAGAGACAGGGCTTCACCTGTTGGCCAGG
CTGGTCTTGAACCTCCTGACCTCAGGTGATCTGCCCGCCTTGGCCTCCCAAAGTACTGGGA
TTGCAGGCATGAGCCACTGCACCCAGCCATTTGTATATATTTAATGTTAAGTGATGCTTT
CCAAAGCCACAGGGGCTGTGCTCCCTCTTCCCTTGCCCTCCCTGAGGCCCCATCACCC
ACCTCTTGAACCGGGCCCTCCGCAAGTTTGCCATCTTGAGGCTGGCAGAGACGGTCAGGG
CTGCAGACTCGGGAAAAGGCAGGTTTCTGAGAGGTTAGGGACCCCGGCAGGTGGGCAGCA
GGCAGTGGGGCAGGAGCTCGCTCACTCCCAGCTCCTGCCTCCAGCCCCCAACAGGTGTGC
ACCGTTGGCCAGCCCCGCTTCCATCCACCTGGGGACCTTATACCTCGCTGCTGCAGCC
ACACCTGGATGCACCTGCTCCCGGAAAGCTCTGAGCCTAGTGCTCCTTGTGTGAGGTTT
AACAGGACAGGCTCAGTGGCCACTCTGAGAGCCCCGCCACCCGGGAAGGTGATGCACAT

FIG. 9N

GCAGCCTCCAGATGGCCAAATCAGGCAGCATGTCTGGCCCAGGTGTCACAGAAGCCGGGG
CAGGAAGAGCCTCTGGGGCCGGATGTTTCACCAGGTCTGGGAGGACTCAGTAAATATTAA
ACAGCCCCTGGCATGCCAGACAAGCTTCCAGACGGGCACGTGCAACCTGCCGGCCCCAGC
CCTCACGTGAGGTTGCTACAGCAGTCTTCTGCCTGGTGTGGTTGGCAGAGGCCTTGGTA
CTCGGCTGTTGCAAGTGCAGGCTCTGGAGGCAGACAGGGCCGGGCTCAAGTCTGCACCT
GCCCCAGCCTCCAGGCGGGACAATTATAGGACTGACTGCACAGGCTTCAGGTGAAGACT
CCATGCAACAAGGACGTGAGCCAACCATTTACCCAGGTGCCTGGCGGTGCTGGCCACTGG
GTGATGATGACAGGCATGCACTCGGCACCTTGCCAAGCTCAAATTCTGCTCTCAGTGCTTT
TGTTTTTTTTTTTTTTTAAATTGAGACAAGGTCTTGCTCTGTCTCCCAGGCTGGAATGCAGT
AGCGTGATCTCAGCTCACTGTAGCCTCCGCCTCCTGGGCTCAAGTGATCCTCCCACCTCA
GCCTCCTGAGTAGCTGGGACCACAGGAGTGCACAATTACACTCGGCTAATTTTTTGTAGT
TTTGGTGGAGACAGGGTTTCACCATGTTGCCAGGCTGGTCTTGAATTCCTGAGCTCAAG
TGATCCGCCTGCCTTGGCCTCCCAAAGTGCTGGGATTGCAGGCGTGAGCCACCACGCCCG
CCTGGCCTGCTCTTGGTGCTTTACATGTATGGACTCATTTCTCCTGACACAGTCTTTGAG
GTCAGGCCCCCTGGTACCGTCCAGGAACTGAACTTGCACTCACTCGCCTCTGGCTCCAGA
GTCTGTGTGCTTGACAGCTTCACAGGCAGGGCTGGATATGAGCCGCCTCTTTCTCCAGCC
TCCTCTCCTTGAACTTAATGGCTGCTATTTTCGTTTTTCACACCCACACTTCTTAGCCATC
CCAACAGAGGAATTCCCAAGCTGAGGAGGATGTCCAGTGGCTCCTGGCTCGGGGAGTAC
CTGCCTGACTGCCTGGGGGAGGGAGACCTGGCTGAGGAGGGGCAGGAAAGGGGAAGGGC
AACCATGCCTGTCAACTGGGGCAGAGTAGGACAGTATCGGGGCCTGGCCCTCTCCTCCTT
CATCCTCACTGTTTATCCTCTCATCTCTATCCTCCCACCCCCAGGTCCAGCTCTTG
GAAATGGCCTTATTATGTCAATCATTACACCTTAGTATAAAATTTCCCCACCAGGTTAC
TTCCCCAAGTGAGCCATCTGACTGTGGAGTAAAAATCCCTGTCTATAGTGAAAGGGGTTT
CAAGGTGCCAGAGTAGGGGTCAAGGTGGTGATGGGAAGAGAAGGGGCATCAGCCCACCT
CTCCATGCAGAGCCCTGCCCTCCTGCCAGGTTGTTTGCCTTGACAGTGCGGCTGCGCTTC
GGCCTGCTCGGGTTACCAGGGAACAAGGCCAGAAGGTGGGGCCTGAAACCCAATCAGGCT
CCAGCCCTGGCTCCAAGGGTTCAGACCCAGGGAGCTCGACGGAGACAGGAAGTTAAAAA
TAGATGCACCGCTTCCCCGTCGGTGTGGGCAGCTTCTTCCTTGCCCTCACACAAGGGGGC
GGCAGAGGCCAAGGCCAGGTGGGGGCTGCCAGGGACCTCCGAACCAGCCCAGGCCCAGC
ATCCTCTGGCATCCTTGACAATCAGATGGGGGACAGGAGGGGTCTGAGATATTAGAGCCA
TCAGGGCTGTCTTTCTAGACTAGGACTTGACACTGTGGGACCCTTGCTGACGGCCAGC
GAGCCCTGGTGTCAAGGGGATGGATCACCTCTGTCTCCTTCCCTCCCAAAGAGCTGATCC
CAGGAATCCAGGAAGGGGCCAACGAGAGGCAGAGGCCTACCGTGGGGGCACCTCTCTGGGC
AGAGCTCCCCTCTAGGGCCTGAGGGGACATGTCCCATGGATGCAGGACATTAGAGGGCCC
CCACAGGCCTGGCAGGAGGAGAGCTGCAGGCAGGGCCAGTTGTGAAATTTGTGGGGTCTA
GTGCGAAATAAAAATGCAAGGCTCTTTATTCAAAATTTATCAAGAATTTTGGGCCAGGCG
CGGTGGCTCACGTCTGTAATCCCAGCAGTTTGGGAGGCCGAGGTGGGTGGATCACCTGAA
GTCAGGAGTTCCAGACCAGCCTGGCCAACATGGTGAAACCCTGTCTCTACTAAAAATTAG
CTGGGCATGGTGGCACATGCCTGTGATCCCAGCTACTCGGGAGGCTGAGGCAGGAGAATC
ACTTGAACCCCGCAAGTGGAGGTTATGGTGAGCTGAGATTGTGCCATTGCACTCCAGCCT
GGGCAACAAGAGCAAAAGTCCGTCTCAAGAAAAAAAAAAAAAAAAAATAGCCAGTGTGGTG
GCCCATGCCTGTAGTCCCAGCTACTCAGGAGGCTGAGGCAGAAGAATTGCTTGAACCTGG
AAGGTGGAGCTTGCAGTGAGCCTAAATTGCACCACTGCACACCTGGGTGACAGAGCAAGA
CTCTGTCTCAAAACACACACAAAAAATTGTATTAAGAATTTCTATTTGGTGCCAGGCAC
AGTGGCTCACACCTGTAATCCCAGCATTTCTGGGAGGCCGAGGCAGGTGGATCACCTGAGG
TCAGGAGTTTCGAGACCAGCCTGACCAATATGGTGAAACCCTGTCTCTACTAAAAATACAA

FIG. 90

AAAAAAAAAAAAATTAAGTGGCATGGTGAGGCACACCTGTAATCCCAGCTACTCAGGAGG
CTGAGACAGGAGAATTGCTTGAAGTCAAGAGGCGGAGGTTGCAGTGAGCCGAGAATATGC
CACTGCACTCCAGCCTGGGCAACAGAGCGAGACTCTGTCTCAAAAGAAAAAAAAAATAC
AAAAATTAGCCGGGCGTGGTGGCACGCTCCTGTAATCCCAGCTACTCAGGAGGCTGAGGC
AGGAGAATCACTTGAACCTGGGAGGCGGAGGTTGCAGTGAGCCAAGATCGCGCCATTGCA
CTCCAGCCCCGGGCGAGAGAGAGAACTGTCTCAAAAAAAAAAAAAATTTTGGGAGGCTGGG
GTGGGAGGATCATTTGAACCAAGGAGGTCAATGCTGCAGTGAATCGAGATCGCACCCTG
CACTACAACCTGGGCGACAGAATGACACCCACAAAAATTTCTAGAGCACAAACAGCAGAGC
GTTCAATCAAAGTACAGAGCACAGGCTACACGCTCATGAAGCCGCCCTTGGGTACAGGGT
CTGCAGACCCTACCCCTCCTTCCAGACCACACAAGGGTCCCTACAGTGCTTCAGTGGACC
AGCCCCACTCCAGGGCACACAGCTGGGAGAGGGTCACTTGGGCCGGATGGCCCCCTGGCC
AGGTAACCCGCACAGCTGACCTTCCAGCCTTGATTACAGACCCCTGCAAGAAAGTGGGG
GACTCTGATAAAGCCAGGAAGAGGCAGCTCAGAAATGGTTAAGTTGAGAAACAGCATCA
TTTCTGGCCGGTTTATACTTAACCCCTCCTTGCAGCACTTATGGAGTGCCTGCTGTGT
GCCTTTCTCAGGCAGCACCCACTCTTCTGTTCTCTGAGGCTTGGAGTTGGGGCACTGAG
CACTAACTGCTCTGGAGCCTGGGTCAAATTCTTCTCGTCTTGGGGCATCACTTAAACCC
TTCCCAGGCTCCCTCCACTGAGAATGTGTCTCAAGGCCTCACTGCAGCCCATGAGGCTC
CGCAGGGTCCCTCCCTCCCTGACTGCTGTACGCATGCCAGCCGCACACCTGCTTTCT
GTCCCTTAAAGCTCATTCCCACCCAGGACATCTGCACTCGCAGCTGCCTCCCGCCGCCGA
AGGCTTCCCGGCCACCCCATCTGCACACGCGCAGATCCACTTCTTGTCCCTTCTG
CCTCCACTCCCCATGCCCTGTCTCGTCAGGCTCTCCCAGGAGACCATGGGTGCCCTCCC
CCACCCCCAGTTCAAGTTCCCTCACAGCACTGCCACCAGCTGGATCTGTCTCAATTATCAC
TGGCTTATTGTTTGCTGCCATCAGCTCCCAGGACAGCAGGGCCTGGGTCTGTCCCCAGAG
CCCAGGACAGGGCCAGAGTAGGTGCTCCGTGAATATCTGCTGCGTGAACAGGGATTCTTA
AGGTGCTTCCAGCTGGGACACTCCAGGATCTTAACCTGGGGTCCCGGCACCACCACCCA
TGGGAAGGGAGCCCCCAGGGAAAGGTTAGTGAGCTGGGAGGGCTGACCTCAGGGGGGTGG
AGGTGGGGTCTTATCCCCGCAGCAAATGCCCTGGGAAGGAGCTCAGGGAGCACACACAG
GAGGGACCTGGCCTGGTCTGGAGCTCAGGGGTCTCCCCAGGACCTAGCAGGAAGCCAA
TGCCTGCAGGTGATTCAACGGGAACTGGAGGTGGAGGAGTGGGGTAGGAGCTCCAGCGGG
AGGACACACATGTGCTGAGGCCCTGAGGCCGGGAGGGGAGGGAGGTAGGCTGCTGGGGCC
AGGTCCCAGGGGCCTCTAGCCAGGAGGGCGCTGGGTTTATTCTAAGTAGGTTGGGAATCT
TTGCAGGGTTTCAAGTCGGGGAAGAGCATGGTGGGATTTTATTGTTGACTGACTCACTGA
CCTACTGAGTTCTGCACTCTGCTCTGGCTGGGGACCCCGACCTGTCCACCCCGTTGGCTC
AGACAGACAGAGGTTTGGCCCCCTTCAAGATGTGATAAACTGCCCCAGTCCCCAGGCCTG
CCTGCTCGTAAATGGTTCCCTGGGGGCTTGACAGTGCCTGGCATGAGGCCCTGGAGCGA
GGGGGCAGCAGGCCTGAGCTCATCGGGCTGTGGCCTCCAGAAGCAGAAACAACCTTCTCTC
CCAGGGACTTAGTACCTAAAGCCGGAGGAGACACAGGACGGGGCAGCAGGCAGGGCCTGG
CCCGGCCAGCACCCCCAGGGAACCTCAGCCACAGGGTCAATGCTGCCCCCAGGCCCCTCT
GTGCCAAGCCTGCTCCCTCATCCGGTAACCCCCACAGCACCAGCTGCACCGGTGCTGG
CCCTGCCTCCCTCGTGGTTCTTCCCGACAGCCCGTGAGCAGGGTGCACCCACAATTCC
CATTGTTCAAGATGAAGACAAGGCTGAAGAGGTGAGGTCACTTGCCCCAGGTACAGAGCC
AGAAGAGGTGGCCCCATTGCCTAGTCTTCCAGACAGGAAGAATTCCTTCCCAACCCCG
CCCGTGAAGACCCAACCTGGGCCAGTTTTGCTGTGTGACCTTGGGCCAGTGGCTCCAC
CTATCTGAGCCTCTGGTTTTTTTGGTTTTTTCTTTTTTGGTGTTTTTTGTGGGTTTTTTTGAG
ATGGCATCTTGCTCTGTCAACCCAGGCTGGAGTGCAGTGGTGTGATCTCGGTACACTGCAA
CCTCCACCTCCTGGGTTCAAATAATCTCCACCTCAGCTTTCCAAGTAGCTGGGATTAC

FIG. 9P

AGGCATGTGCCACCACATCCAACTAATTTTTGCATTTTGTAGTAGAGACAGGGCTTCACCG
TGTTGGCCAGGGTGGTCTCCAACCTCTGACCTCAAGTGATCCGCCCCGCTTGGACTCCCA
AAGTGCTAGGATTACAGGCATGAGCCACCGTGCCCAGCCCAATTTTCTGGTTTTTCAAAA
AAATTTTTGTAGAGATTGGGTTGTGCTATGTTGCCAGGCTGGTCTTGAGTTCTGGGCT
CAAGTGATCCTCCTGCCTCGGCCTCCCAAAGTGCTGGGATTATAGGCGTGAGTCACTGTG
CCCAGCCAGAGCCTCAGATTTTTTATCTGCCAAGTGGACCTGCTAAGCTCAGGCAGATCA
ACTTCTGGAGACTTTGAAATGATAACTGTTCAAGGAAATGATAGGTTTATCCC
AACACTAAGAACTCTGTCTCTGTCTCTCTCAATCTCAATCTCTCTCTCTCTCTCT
CTCTCTCTCTGTCTCTCTCGGGCTGCAAGCCGGCCTGAGAGTGGGCCTTCGGGTCTCT
GGCAGCAGGAGGAGGATGACCCTGCCCTTCCCCAGCCCATTAACAAGCCCCACCCCTGCA
CCCCGAAACAGGACACGGGGGGAACCTTACGCGATCCTCCGGCTCTGTGCACTGCTGAAGC
CTGCGAAGGAGGCGCTCCGGCCACGACCCCCACGGCCCCTGTGTCCCAGGGGACAGGA
ACCGCAACCTCACCGACATGGTGGTCACCTGCAAGGAGAGGACAGGAGAGTCAGCCTGGC
ATCACCATCCAGCGAGTGCCGTCCGACAGCCAGCCACCTTCCACCAACACCTACAGACCT
CACAATGGCCCCAGAGTGTTGTGGGGGCTGGTACTGTGCCAGCTCACAGGTCAGCAAGC
TGAGGTCCCATGAGGTTAGGGGACCTGATGGGGGACAGTGATGGGAATGGAATTCGAACC
CAGGTGTCTGTACTCTGCACTCTGTGCTCAGGTCTTAGTGCCGGGCAATGCTGCCTCCC
AGAGCAAGGGGACAGCACCTCCTGAACACAGCCCTCTCACCCCCGAGCTTCTCCTCTCC
CCTCCTCCAGCCCTCCCTGAGCACCTAACACAGGTGAACTCTGCAAGGCAGGCCAAGTCC
CCCCATCCTCAAGGGCTCCAGCCCAGCAGGGAGGCCCACCTACTGCCGAACAGTTACGAT
ACAGAGTCCATGCTGGAGTTATGGGGGTCCAGGGGGAATCTGACCCAGCCATGAAGAGG
CGCCCAAGAGCTGAGTAGGAAGGCTGACGTGGGGTGAAGGGGAAGGGTGTCTAAGGCCGA
GGGAACAGCCTGGGCAAAGGCCAGGATGCATGAGGGGACTTGGTGTCTATCCAGAAACAGC
AAGAAGCTCAGTGGGCTAAAGACGAGGTCAGAGAGGCGGCAGGGCTCAGGTCCCAAGAG
GCATTGGTAGCCCCAAGCAGGGGCTTGGCCTTACAATGGGGCAAGGGTGACTGGGAGCCA
TGGGAGGGCTTTTACAGCAGGGGGTGGAAAAGTCCAATTCACATGAAGCCAGACTGCTGGTG
TCAAGGGCTGCTTCCACCCCGATCCATTGCCAGTCTCCGACCCGCCCTGCAATGGGGCC
AACCCCGAGCCCTGGCTGTCTTCTTTTTTCCAAACCATCTCTAGATTGAGAAAATGCC
ACCCTATCCCTTGGGAATATAGGTCAGCATCTTCCAGCAAGGGCAGCTGGAAAGTTCTGC
TTCATATCTAACCTAAATCTCTGCTGCTACAGTTTCATACTTTGCTCCTTTGCCAGGGTG
GTGTCAATCCAAGGATTCCAGGGACCCATTGCCCAGACAAAACCTACGAAAAGCTCCA
GTCCACCTCATCTTCTGACGATGAGACCCCATGTTCCAACATCTCTTTCCCCCAGGG
GCCAAGTCCACCCCACTACACCTCTGCTCACTTGGGGGTCTCTGCCTGGAAAACTTCTT
GTATCGAGCCACATCTGCCCAGCATCTACTACTGCACCTCCTGGCAGATCTGTGCAGCCT
CCACAAGCCTCCTCCTCCCATATATCCCCACCCACAGCCCCACATGTGCCGTACATAG
GAAAGCTTGGCAACAAAGAAGGTGGACCTGGGCTCAAATCCCAACTGTGCCACTCAGGCT
CTGGGCCTCAGTGATCACAAGAGTAAAAGGGGAATTGAGAAAGAACCTCCACGGAGACT
GCTGGAAGGACCAAGGAAAGCATGTCCCGAGAGCCACAGTGTGCAAGAGACATGTCCGA
AGAGCTGGCTGTCTCTGTGCAATTGGCTAAGACCCAGCTCTGCAGGTGAGCCAGGTGAC
CCAGATAAGCCAGGTGACCCAGGGAGAGCCAAGTGAGAAGTGAGCGGCTTCTAGCCCGGA
TGGAGGAAGGTGGCAAGCATTGTGCTGACCACTCGCTGTGTGGCAAGCCTGGTGCCCCATG
AGTGGCTACGAATCCATGAACAGCTATGAACCCATGCCCAGCAGTGCTGTGTACAGATGG
GGAAGTTGAGGCATCATTCATCAAGTGCTCATTACTAAGCTGGCCCTGCACTAAATGCTT
TATGTAAATTATGAAATCCATACAACCTCTTAAGAGCAGGAGCTTTTGATGATCTAATT
CCATAGATGAGGAACTGAGGCTCAGAGAGGTGATGAGACTAGCCCAGGAGCCCCAGCAG
GGCACCTGAGCACTGGGTTTAGAACCCGAGGATGCCCGATGTCAGAGCTTGTCTTACCTG

FIG. 9Q

CGGTCAGGAGAGACGCTTGCACTGCGGCCTTGCCCTGCCCCATAAAGAGGAGTCCCCCTACAG
TCCCCCTCCTGTGCTGTGCTGAGCCAGCTTGTACCAGCTCCCAACAGTCAACTGGGCCAGG
CACAGTGGCTCACACCTGTAATCCTAGCACTTTGGGAGGCCGAAGCAGGCAGATTGCCTG
AGCTCAGGAGTTCAAGACCAGCCTGGGCTACATGGTGAAGCCCCGTCTACTAAAATACAA
AAAATTAGCCAGGCTTGGTGGCAGGCGCCTGTAATCCCAGCTACTCGGGAGGCTGAGGCA
GGAGAATCACTTGAACCTGGGAGGTGGAGGTTGCAGTGAGCTGAGATCATGCCACTGCAC
TCCAGCCTGGGCAACAGAGCAAGACTCTGACTAAAAAAAACAAAAACAAAAACAAAAA
ATAGTCAATTGTTAAATGTTTTCAGGAATTTTGTGAGCCTGTTGACATCACGTTGGTGGTTT
GAAATCAGCCACAGTAAACGTATTTACACCACAGAAAGCGGCAAGTTCTACAAGTTAGGG
TTTCTGTCTGCTGGTTGTTAAACACGTATGAGCTCCTCACTGCTGTTACCCCTATCAGCA
CCTATGCAGGGCCTGAGAAGCTGCTCAAACCTGCTTGATCCCCCAGCCAAGCCAGGCAAG
AGAATAAGGACGGAGTAGGGAGGGATTCCCAAAGGTGAGTAGTTGAGACGTACTCCGGAG
CCAGCCTGGGCACTGGAGCCGGAAGGGGCTTCCCCGGCCCCCTCCCTCTGCACCTTCCCAT
CAGAAGCCTTCTGGGCCGTTTCTGGAGCTTCACCCCACTCACTCCACTTCAAGGTGAGAG
AGAAGGACAATTGCTAAGCAGTTCCTCCCGATGCAAAGCTCAAAACAAGCCCCAGGTCCT
CCTGCTCAGTGAGAGAGAGGACGACGAAGGAGGGAACTAAGGCTCGGAGCAGACCTG
CAGAACCTGACAGCGGATTCATCACTCATAGCACTGTGAGGTTCAATGGCCCCATTTTTC
ATATGAGGAAAGAAAGGCTCTGAGAGGTGAGAGGCGACTCAGGGACACACATATTTCTTT
CTTTATTTCTTTTCTTTCTTTCTTTCTTTTCTTTTTTTTTTTTTTTTTTTTAGACAGGG
TCTGACTCTATTGCCCAGGCTGGCGTGCAGTGACACGATCTCAGCTCACTGCAACCTCCA
CCTGCTGGGCTCAAGCCATCCTCCACATCAGCCTTTCACGTGGCTGGGACTACAGGCAC
ACACCACCATTTCCAGCTAATTTTTGTATTATTGTAGAGATAGGGTTTCGCCATGTTGT
CCAGGCTGTTCTCGAACTCCTGAGCTCAAGCGATCCACCCACCTCAGCTTCCCAAAGTGC
TAGGATTATAGCCGTGAGCCACCGCGCCTGACCAGGACACTCATTTTTTCAAACCTGAAGTC
TGGCTCTTCCTTCTTCCACGTGCCATGGCCACATGGATTGGCTTCCTGGCTAAACCCTCC
TCATCTTTCAGCCAGATGTCCCCTCCCCAGGAAGCCTTCTGGACACCTCCCCACTCC
TAGCTGTGTCTGGTGTTCCTCTGGATGCCCTGACCTCCTCTGTTATAGTGGACTGTGA
ATGGTGACTTGTCTATCTCTCCATCCTAGACAGGGAGCTCCCTGCAGGCAGGGACCAGGT
GCATGGAAGATTACATAACACATCTTTATTGAACCAGAAAACAATGAAGGAAAGGTTGACG
CTGCTTCCCCTACTTCACCAGGCTGTGCAGCCCAAGAGGAAGGTGCTGGAATAATAACAG
TAATACTAATACTAATAACCACTATGTGCTAGACTCTAAGGCAAAGATGGACAAATGTTT
TCTGTAAAAAGCCAGATAGAAAGGCTGAGCGCAGTGGCTCACACCTGTAATCCCAGTACT
TTGGGAGGCCAAGGTGGGTGGATCACCTGAGGTCAAGAATTCAAGATCAGCCTGGACAAC
ATGGTGAAACCCTGTCTCTACTAAAAACACAAAAATTAGCCGGGCGTGGTGGCGCATGCC
TGTAGTCCCAGCTACTCTGGAGGCTGAGGCAGGAGAATCACCTGAATCCGGGAGGCAGAG
GTTGCAGTGAGCCGAGATCAAGCCACTAACTCCAGCCTGGACAACAGAGCTAGACTCCA
TCTCAAAAACAAACAAACAAACAAAAAGCCAGATAGTAGATATTTTTTGGTTTTTTCAGGCC
ATACAGTTTTTGTACAACTACTCAGTTCTAGCATTTTATAGACAAAACAGCTGCAGACA
TTATGTAAAGGAATTATGCCATGGCTGTGTTTCAGTAAAACCTTTATTTTACAAAAGCTGCA
GCAGCTGTTGAGGATGATGGGTGGCCCTGCCTCTGACCCTTGGGTAGCCAGCACTGCCTG
CTACCTGCTCTGAGGACTTAAATTTCTCATTTCTATTCTCCCAACACCATATGAGACAAGT
ACTATTACTATCCCCATTTTGCAGATAAGGAAACCGAGGCTCATGCCAGGCGTGGCGACT
CACGCCTATAATTCAGCACTTTGAGAGGCTGAGATGGGCGGATCACTTGAGCCCAGGAG
TTCGAGACCAGCCTGGGTCTCATAGTGAGACCCGGTCCCCACAAAAAATACAAAAATTAC
CCAGATGTGGTGGCGTGCACCTGTAGTCGAGCTACTGCGGCAGGCTGAGGTGGGAGGATC
ATTAGAGACCTCCCAGCAAGTCGAGGCTGCAGTGAGCTGAGACTGCACCACTCCAGCCTG

FIG. 9R

GCTAACACAGTGAGACCCTGTCTCAAAGAAGGAAAGGAAGGAAAGAAGGAAAGGAAAAA
GGAAAGGAAGAAAAGAAGGAAACCGAGGCTCAGAGAGGACGGAAATGAGTCCTCCGAGGT
CACACAGGTAGGAAATGCCAGAGCTGAAACTGGACCGGGGCGCGCTGGACTCCAAAGCCT
GGCTTCGGGACTCCGCTGTGCTTGCTCCCGCAGCTCTGCTGAGGACACGCCCCCTCCCA
GGAGCCAGACCTCCTCCAGCGGGGAAGAGGCCCCAGAATGGAAATAGGATTGGGAGGGGG
ACCTGCCAAGCTAGAAAGATAGCCCTGGGTGGTGGCCGAGAAAAATCAAGCCCAACCTCT
TTTGGCTTCAGGGTGTTGCAGCCCCAGCCCCCTGTGGGCCCCCTTGGGGCCTGCGGACCGC
GACAGTTCCAGGCAGCTCAGCTGCGCCCCCTCCCGGCTGGGCCTGGTGGGGCTGATCCA
TGACGTTGACTTGAGTCCAGCCAAGCAGTGTTTCTTGTTGGTAAAAGAAACAGACCTCCC
CCTGGATGATTGGGGATGGGATGGCCAGGCTGAGACCCACAATCTCAGGAGCCTTCAGCG
GACAGCTCCTGACAAGTCCAGTTTGTACCTGCGACCAAGGGTGACATTCCTGATGTTTA
AGCAATGGCACAGCAGCAAATGGAGGCTGGGTGCTGGAGCAGGGTCTTGAAGACCCTGTC
CCCTCCCACCATGTGTACCAACCCCTGCTGGGGCTGGCATTAAACCTTTAGCTACTGGAT
TGTGGGCAGGTCTAGGAGGTCCCTGGGGAGGCATCAGGAAGAGAGGAGGAATGCTCGGGT
GGCTTAGGGCAGCCCTGGGTAACCAGCACTCTGCAGGCATGAGAGACAGTGCAGAGACCC
TGCTGGGCCCCAGGGCAGAGAAGGGAGGCACAGAGTCATGCAGTTCCCAAACCTTTGGTG
GCAGACAGGACAGCCTCTTCTACTCCGTGTCCCTCGCTGCCTCTCTTGGCCTGGCACTT
AGAAGTATGATGCCGTTAGACCCCGCTGGTGTGTGCAGGGAGAGGAAGCCAGATGCTCCCA
GACACTGGGGACTGTCTGGGCCTCCGTCCCCAAGGTGTGGCTGGAGGAAGCAGAGTCTA
CTCCCGCTAAGTCTGTCCGCTCACTGCTGGCCAAAGCTGCCCTGCGTCTCCTCCCCACCG
CCAGCCAGAGGGAACCTGCAATTTACCTCATTTAGAGGTAAACATCTAAATTTAACGT
TATGGGCTTTTGGGGCTGGGTGGCTTTTATGCCTGAGTCCCTCACTTAGGGCTCCTTTTT
ATCCACTCAAATGCCAGCTAGGGCTTAGTTTGTATTATAGGAGTTTCCAAAATAGCTCCTT
TGGTTTTCGCATGAAAGGAAATGGCAAAATAGCCCAGGAAGAGGAATGTGAGTTTACACAG
AAGACAGACAGGCGCCCCGAGGAGGCTTCTCTGGGAACCAAGTTCGCCTGTACCAGAGGGGG
CCCGAGAAAGTGTGGAGTCCAACAGTCCAACCTCGCTCATTTTACCGATGTCAAGACTAAG
CCCAGGATGGTCACACAACCTTGCCTGGACCACCCAAAGGCGACTGGAAGAGCCAGAAGAA
CCCAAACCTACTCCTCCCTGCCAAAGCACAGGCCTCAGCTGGAGCCCCCTCCAGCCTTTG
CCCTGGCTGTGTCTCTGCCTGGCACACGCCTCCCTTCCCCCAGGTCTTCCCTATCACTC
TCTCCCAGCTTGCAGGCCTCACAACCAAGGCCACCTCCTCAGAGAGGTCTCCTGACCC
CCTTGGCTAACGTGGACTTGCCCTCACCCGTATCCTTCAAATAACTCATGGTTCTGATT
GTCTTATTCATCAGTTAATCAAGTATGCTTCTCAAGAATCTTCGCTCCAGGGAGCAGGGG
GTTTTTCTGTCTTTTTTAAAAAAAAGTTTTTGGGGCCAGGCACACTCCTATAATTATGGGC
TCACGCCTGTAATCCCAGCACTTTGGGAGGCTGAGTCTGGTGGATCACCTGAGGTCAGGA
GTTCAAGATCAGCCTGGCCAACATGGTGAAACCCCATCTGTACTAAAAATACAAAAATTA
GCCAGGCGTAGTGGCGGGCTCCTGTAATCCCAGCTACTCAGGAGGCTGAAGCGGGAGAAT
TGCTTGAACCCAGGAAGCGGAGGTTGCAGTTAGCTGAGATCACACCGTTGCACTCCAGCC
TGGGTGATAAAGCAAGACTTCGTCTCAAAAAAAAATTTTTTTTAAATAAATAAATACATAA
ATTATTATTATTATTATTTTTATAGAGATGGGTCTTGTTATGTCACCCAGGCTGGTCTCA
AACTCCTGGCCTCAAGCGATCCACATGGTGTGAGCCACCATGCCAGCCTGCTGGTTTTT
AAAGAGCATATTTAAATGAAAAGAGACAAATTTAAAGGACCCTTGTTTTAAATAGAGCAG
GTTGGAACCAGCTTCAGGGCAGCCCATGGTCTGGCTCTGCCATCCTCCAGAACCACCTG
GAGCCAGGAGGGGACACCCAAGGTGTCTCTGCAGAGGACAGCGGCCTGACGGATAGACAC
ACAATGAGTGCCCTGATTTGTGATTTAAGAGAAGAACAAGCAGCTCCTTGGGAAGCCCCA
GTGTCCCCTGCGCTCCACTGTCCCAGGACTGCAGGCAAGGGACGCCTCCTGACCGCAGA
ATAGTCAACAGCAGGCACGGGAGTGAGGACCGGGATCCAGGGAGGCCGCTTCCCTCTGTC

FIG. 9S

TATCAGTCTGCAGCCCTGGGTCCCAGCTCACTCCATTGGGGTTTTCCCAGATAAAGATGA
CTCATGAATTTCTTTGAATTATCCAGAGGGCATTTTAATTCAAATGGCCCCATCACTGCC
TCGTCACTACTCCCACCAGCCATGCCAGGGGTGAGCCAGGGGTACCTTGAAGACAAAGC
CTCTCTTTGGGAAAGAAGCCTTTGAGGGCACTGTGGGGTGGCTGTGTGTGCGGGCGCCAG
GTGGGAAGGCAGCTGGGGCCTGCCAGGCTAGGGAAGAGAGCGTGGGGGTGTGGGGGATG
AAGGAAGATAAAGATGGGGTAGCGGGAGGGAGCGGGGGAAGCTGGGCCTCCAAGAAGCAC
AGGCTGACTTGGGAATCCCATCTCAAACGTGCCTCACCTGGTCTCCAGCTGTAGGAGCA
GTGATAAGGATGAGGACAGGCAGGAGGGACTGAGATGAGATGAGAGCATTGAGAGCCTGG
AGAGAGACCCCTGACACTGAGGGAGTGAGGTGACCTGGTGGTGGCTATTCCAGGCCAAGC
ACCTTTGTTCAACTGTCAAAAACAGGCGGGCGCAGTGGCTCATGCCTATAAT
CCCAGCACTTTGGGAGGCCAAGGTGGGTGGATAACTTGAGGTGAGGAGTTTGAAACCAGC
CTGGTCAACATGGTGAACCCCATCTCTACTAAAAACACAGAAATTAGCCAGGTGTCTGTG
GTGCATGCCTGTAATCCCAGCTACTCGGGAAGCTGAGGCAGGAGAATTGCTTGAACCCAG
GTGGCAGAGGTTGCAGTGAGCCAAGATTATGCCACTGCACTCTAGCCTGGGTGACAGAGC
GAGACTCCAACCTCAAAAAAAAAAACCTGAAAACAGCAATAATGCCAGTGGTACCCAACA
CGGCTACAGGACTTGTGCAGTGCCAGGCATTGCTCAAAGAATTCATCTATTGAATTCTTG
GTACCCAGGAAGTCTGGCCTCAAGCCTGAGCTCTGCCCCGCTGAGCAGAACCCCTCTTT
CTAAACCCCGGACACTGGGCTGGACACACAGCCTCTCACTACCCCCACAGCTCCCCGGG
GGCAGGGCACTGTTACCATTGTACAGACCAGGAGGCTGAGGCTCGAGATGGAGCCACCTG
AAGTGGCAAGTTGGTAGCATTGTACCTCCAATGACTCACCAAACGCCTGCATAAAAAATC
CAGGTGCAGTGGCACTCACCTGTAGTCCCAGCTACCTGGGAGGCTGAGGCAGGAGGAGCA
CTTGAGCCCAGGAAGTTTGAGGCCAGCTTGGGCAACACCATGAGCCAAAAATAAATAAAT
ACAATACAGGTAAAGTGCTTGTGTATAGGCAGTGTGGTGCAGGTGTGTGTACGCCTGACC
TAGGTCCCAGGAGTGACTAAGGGACACGCAGAGTGGGGCTCTCCAATCAGAAGCCCTCAC
TCTGGAATTGGTTATGGGAGGGTCCCTGGACCTCAGCATGTAATGCTTTGCTGTGGAGGC
TGTCTGTGTGTTTCAGCAGTGTCCCCACACCAGGAGCACAGCCTGTGACAGCCTGGCACA
TCTCCAGACACTGCCACACGTCCCTGTGCTAAAGGCATCTCTTCGGACCTGGGCTGGAGG
GTTTCAATTAACCCGTATGGTGGCTTAGGCATAATTTTCCATGGGCGAAATGAGTAGTATTG
AAGACACTATGGTATTTGGTTGGCTACAGTATTGCTCGGGCACCTTCCCCTCACACGAAC
AGGTGTGGGACTCTGGCAGACCACACAGCCTGACACCTACGGAGCGGCCCTGGGTCTGCG
GCTCCACAGGGCCTCTGCCACTCCAGCCGTGACACACACACATGCTGTCAACAGCCTAG
GATGTGCACAAAGCCTGTAGGTCTGAGACCAAGGACATGAGCTTGGAGGAGCTGGCTGGA
TTCCTCAGACCTCTGGGGCCCGTTTGCCAGAGCAGAGCCGAGACCTGCCTGAGACCTGCC
TTCATTGCAACCCTGGCCCTGTGGCACGGCTGCAAGGGAGGAGAGACCGGGTGAAGGGCT
GCTTCCCCTTTCCATCCAAAAACACACAAACAAAAGACGCCTGAGCTTGGTGAACACACG
CACTGGTCAGGCTTAGCTCCATGCGGGGAGGATGTAAATTCAAACCCAGGTGGGCTGAAC
TCCAAAGCACTCTTCGGCCAACCACTGGTCACTGGAATGAACTGCCCCCAACCTCTGTC
ATCTCGGGGACACAGACCCTGCCCCCTCCGCAGGGCTGGACAGCAGAGCAGCTTCCCTC
TACAAAACGGTCAAAAAGGCAAAAGAAAGACTTCCACACCCTGCCGCTGCCTGGGAGAACC
CTGAGCTTCCTTTCTGCAGTGACCTCTCCATTAGACGCACAGGCCACGCATGCGCCAC
GAACACATGTGAATTACTTCTAGGATCAGAAGGCAAAAAAATGTTCTTTAGGTCAAAGAA
AATGTGTTATTATATAAGAGTAATGTATTATTGTTATAGCAAGTTGTAATATGCACTTC
TTTTTTTTTTTTTTTTTTTTTGGAGACGGAGCTTTGCTCTTTTTTGCCCAGGCTGGAGTGCAATG
GCGCAATCTCGGCTCACCGCAACATCTGCCTCCTGGGTCAAGCAATTCTCCTGCCTCAG
CCTCCTGAGTAGCTGGGATTACAGGCATGCACCACCACGCCTGGGTAATTTTTTGTATTT
TTAGTAGAGACAGATTTTCTCCATGTTGGTCAGGCTGGTCTCAAACCTCTGACCTCAGGT

FIG. 9T

FIG. 9U

TTCACCGTGT TAGCCAGGATGGTCTCGATCTCCTGACCTCGTGATCCGCCCACCTCAGCC
TCCCAAGGTGCTGGGATTACAGGCGTGAGCCACCGCAGCTGGGAGGCTAAGGCAGG
AGGATTTCTTGAGCCCAGGAGTTCAAGGCTGCAGTGAGCCAGGATTGTGCCACTGCACTC
CAGCCTGGGCAACAGAATGAGACCACATCTCTAAAAAAATTTAAAAATAAATAAAAAATA
AAAATGTCCCTTAGTTTGTCACTATATTGCCCAGGCTGGTTTGGAACCTCTGGCCTCATG
TAATCCTCCCAGCTCAGCCTCCCAAAGCGCCGGGATTACAGGCATAAGCCACTGCACCTG
ACCCCAACCGAAAATTCTTAAGGCACATTTTTTGACACTAAAAACAGTATTTTATAACTGC
TAAAAATAGATATGTTAATTCTAGTCTTTTCTTGTCACAGAAACAAATTACCACTTTAGT
TTCTCAAGGAGCACATGTATACATGTTAAATGCATTAATTTGTTTAATATAAACATGAAA
TACTTTTTTATAACCTGGATTGGTACATATTTCTTTTCTTTTCTTTTTTTTCTTTGAGGCA
AGATCTGGCCCTATCACCAGGCTGGAGTGCAGTGGTGCAATCTTGGCTCACTGCTACCTC
TGCTCCCGGGCTCAAGCAATCCTCCACCTCAGTCTCCTGAGTAGCTGGGACTACAGGC
ATGTGCCACCATGACCGGCTAATTTCTGTTTGTGTTTTTTTTTGTGTTTTTTTTTTTTT
TTTTTTTTTTTTTTGTAGAGACGGAGTTTACCATGTTGCCAGACTATTCTCAAACCTCC
TGGGCTCAAGCGATCCTCAACCTCAACCTCCCGAAGTGTGGGATTCCAGGTGTGAGCCA
CTGCACCCAGCCCTTTTATTTATTTTTATTTTTATTTTTTTTTTTTGGAGACGGAGTTT
CGCTCTTGTCACCCAGACTGGAGTGCAGGGGCGCAATCTTGGCTCATTGCAACCTCCACC
TCCGTGGTTCAAGCAGTTCCCCGGCCTCAGCCTCCCGAGTAGCTGAGATTACAAGCACAC
GCCACCAAGCCCAGCTAATTTTTTTGTATTTTGTAGTAGAGACAGGGTTTCATCATGTTGA
CCAGCCTGGTCTCAAACCTCCTGACCTCAGGCAATCCGCTGCCTCAGCCTTCCAAAGTGC
TGGGATTACAGGCATGAGCCACTGCGCCTGGCCCCCATTTCTTATTATACAGTAGTTTAC
AAAAAATCCCAGCAGCCAGCTCCAGAGAGGCCTTGTTCTGTGGTGTCTAAGGATGGAGC
CCAGGCAGGGACGGCCAAAAGCTCGCTACCCCTGCCAGGAAGGCAGGAGCACCGTTGTG
TCCCGTTCTATCCCTCAAAAATAAATCACAGCCAGCTCATGTATAGGACAGAGCCTGT
TCGCAATCCATCCTGTGTCTGCGGATTCTCCCAGGTCTGTAAGGCAGCAGGGAGATGCGG
CCTCTCCCACTCCACCCAACACGTAGCCAGGGCGAGGTGGGGCCGGGGGAGAGGCTGACA
TTCAAAGGCATCTGAGTGGTAAGAGGTGAGCGAGTGAGGTGAATGGGGACTACGTTAGAA
GGACCCTACGTTAGAAGGGTGAGGCGCTAGGGCCATAGCCTAAGGGCACTGGGAACCTG
TGGGCATGCGCAGTTCAAGCCCATCCCCGCTCCCTCCAGCTGCTGTCCATCCCTGCCACA
CCTGACCATTTGCCTAACCTAGATCCTTCTGTCTTGCAATTTCTCAAGCATCCGGAGCC
CAGGACTGCTGAGTCAACCCTCTGGAATGCCACAACCTCCCAACAGGCCAGCCGGCCTTG
GGACTCCCGCACAGCCACGTGAGCCGGTGGAGCCGGGTCTGTTTGCTAGTGGAGGCTGTT
AACAGCACGGGAAGTGGTCAAGGGTTCAACAAGAGATGAGCCATCTGGTCTCCAGAGGT
AAACAATTTACAAGAGACACATCAAGCCGGCCTGCTGTTCTGGTTTTTTCTTTTGACAGTG
AAATATGCAGTTTCTTTTTCATCCTGGTGCCTATTGGAGAGGGAGACTGTTCCAGGCACT
CTGACCCCAGCTAAAGCGCCTCCCTGGGGCAGGATCTATGCAGGGAGGCAGAAAAGTCAG
ATTTTTTTTTCACATCTTCTTTGTTCCATTCCCAGGACTGAGCAACTTCATGTATTTATGT
ATTTATTTATTTATTTATAGACAGGTTCTCACTATGTCGCCCAGGCTGGAGTGCAGTGGT
GCGGTACAGCTCACTGCAACCTCAATGTCCTAGGCTCCAGTGATCCTCCTGCCTCAGCC
TCCTGAGTAGCCGGGACCATAGGTGTGTACCACCATGCCAGGGGAATTTTTGTATCTTTG
GTTAGAGAAAGGGTTTTGCTGTGATGTTGCCCAGTCTGGTCTCAAACCTCCTGAGCTCAAG
CGATTCACCCTCCTGGGCCTCCCAAAGTGCTGGGATTACAGGTGGGAGCCACTGTGCGTG
GCCCAGGACTGAGCAACTTTAAGTCAGATGGTTAACCTACATCATGAGGAAAGTGGATTT
CCTCCCAAAGGAACAGACTTATTTTCTAGAACCCAAAGCCTTGAATTTCAAGAACCCTTTA
GCCTTAAATCCATTTCTGTGGAAGCAGACCCCTCCTGGTCTCCCCAGGTATTGCAAC
CCTGCTCTACCAGCCACTATAAATGCCACACAAAAGGAACAGGGGCTCCATTCTGATG

FIG. 9V

CTCAGAGTGGAGTCACTAGATTCTCAAGCATATGAGATATGTATGTGGCCTAACAGCCTG
AAATAAACAGCTTGTGCTGGGATTGTAATTCTAGAGTTTCCAAAAGTGTGCAAAATATT
CCAGGCAGACACTAAAGTTTGTGTACTACAAGCTGTTTATTAATTAATTTCTTATTTGCC
AAACATTCTTGCTTGGGTCTACTGGGAGATGATTTTCGTTGGGAATGCATCTCCAATTTTG
TAATAAAGATCACCAGGGAAAGAAGGCTTGCTTCATAGGGGCTCATATTACAGGAAATGT
GGCTAGCATAGGTAGTTCCCATAGAAAAAGGACAGTACTAAGTTTTGAGCTCATGTGAA
AAAGAAAAGGGGGCCGGCGTGGTGGCTCACACCTGTAATCCGCACCTTCGGAGGCCGAG
GCGGACGGATCACTTGAGGTCAGGAGTTCAAGACCAGCTTGGCCAACATGGCAAAACCCT
GTCTCTATTAAAAATACAAAATTAGCCAGGCGTGGTGGCGGACGCCTGTAATCCCAGCT
ACTTGGGAGGCTGAGGCAGGAGAATCACTTGAACCCGGGAGGCGGAGGTTGTAGTGAGCC
AGGATCGCATCACTGTACTCCAGCCTAGGCGACAAGAGCGAAACTCCATCTCAAAAGAAA
AAAAAGAAAAGTGACGTCTGGGGACCAGGATTTTGGGACTCTTTCAGACATGCCAATAA
CCTGTGAGATACACACCCACAGACTGACACAGAGGTGAGCAGAGGCCCTTGAGTCAACAG
AAGTTCAAGTCTAGCCTTTGCCTCATTCTCTTTTTTTTTTTTTTTTTTTTTTTGAGATGGA
GTCTTGCTCTGTCACCCAGGCTGGAGTGCAGTGGCGCAATCTCGGCTCACTGCAAGCTCC
GCCTCCCGGGTTACGCCATTCTCCTGCCTCAGCCTCCCAAGTAGCTGGGACTACAGGCG
CCCGCTACCATGCCCGGCTAATTTTTTGTATTTTATAGTAGAGACAGGGTTTCACCGTGTT
AGCCAGGATGGTCTCGATCTCCTGACCTCGTGATCCACCCGCCTCGGCCCTCCAAAGTGC
TGGGATTACAGGCATGAGCCACCGCACCCGGCCACCTCATTCTCACTATGTGACCTTGGA
CAAGTCACTTATCCTCTTTGAGCCTCCAGTTCTCATCTATACATTGGAAGCCACTGAAA
TTATCTTACAGTTACTTTTCAAGTTGCGAGGACTTGCTCTTTTTTCTCTTCATTAAAAGGAAA
ACACAAAATATAATTTATAGCTTATCCTACCACCTTTGTGCTGCTAAGGTTAAATCCAGG
GTAGTGGCCAGGCGCGGTGGCTCATGCCTACAATCCTAGCATTTTGGGAGGCCAAGACGG
GTGGATCACCTGAGGTCAGGAGTTTTAGACCAGCCTCACCAACATGGAGAAACCCCATCT
CTACTAAAAATATAAAAATTAGCTGGGTGTGTTGGTGGGCACCTGTAATCCCAGCTACTC
GGGAGACTGAGGCAGGAGAATTGCCTGAACCTGGGAGGCAGAGGTTGCAGTGAGCTGAGA
TCATGCCACTGCACTCCAGCCTGGGTGACAATAGCAACACTCCATCTCTAAAAAAAAGAA
AGAAAAAATCCAGGGTACTCTATGGTTTCTGTTGGGCTGCTGTAAAAAATA
CTACAACTGGGTGGCTTCAAACAAGGGAACTTATTGTCTTGCAGTTCTGGAGGTTAGA
AGTCCAAATCAAGGTGTGCGCAGGGCCATGCTCCCTCTAAAGCAGCGGTCCCCAACCTTT
TTGGCACCAGGGACAAGTTTTGTGGAAGACAATTTTCCACTGACCAGGGTGGGGGTTGG
GTGGGTGGTTTTTGGGGTGATTCAAGTGCATTACATTTCATTGTGCACTTTATTTCTACTAC
TACATTGTAATATATAATGAAATAATTATACAACTCACATTCCATAATGTGGAATCAGTG
GGAGCCCTGAGCTTGTTTTCTGCAACTAGATGGTCCCATCTGGGGGTGATGGAGACAGT
GACAGATCATCAGGCATTAGATTCTCATAAGGAGCATGCAGCCGAGATCCCTCGCATGCG
TAGTTCACAATAGGGTTCGTGCTCCTGTGAGAATTGAACGCCTCCACTGATCAGACAGGA
GGTAACACAAGCAATGGGGAGTGGTTCTAAATACAGATGAAGCTTCGCTTACCTGCCTGC
TGCTAACCTCCTGCTATGTGGCCCAGTTCCTAACAGACCATGGACAAGTACAAGTCCATG
GCCCAGGGGTTGGGAACCCTTGCTCTAAAGGATCTAGGAAAGAATCCTTCCTTGCTCTT
CCTAGCTTCTGGTGATGGCTACCAATCCTTGGCATTCTCTGGTCTTGTAGCTGCATGACGC
CAATCTCTGCTTCTGTTGTCCCATGGTGTCTCCAGTGTCTCTGTCTTACAGCTCTTCC
TCTTCTTATAAGGATATGACGGTATTGAATTAGAGGCAGGGCACAAATGGCTCACACCTGT
AATCCCAACACTTTGGGAGGCCAAGATGGACAGATCACCTGAGGTTAGGAGTTGGAGACC
AGCCTGGCCAACATGGCGAAACCCCGTCTCTACTAAAAATACAAACATTAGCCAGGGGTG
GTGGTGGGTACCTGTAATCCCAGCTACTCGGGAGGCTGAGGCAGGAGAATCGCTCAAACC
CAGGAGGCAGAGTTTGTAGTGGGCTGAGATCATGCCATTGCACTCCAACCTGGCTACAGA

FIG. 9W

GCAAGCCATCTCAAAAAAAAAAGAAAAGATGTAGGCCCTGGGAAGGATGCCTGGCACACTC
AGAGGTGGGACAATGGTGACAGTCCTGACACTTTCCCTCTGGAGAGCATGGACCCCTGGT
CTTGGCCATGCAGCCAGGCCTGGCCAGCCTGCCTGTCCCCACCCCCACCCACAGGGAC
TGGGCCCTTCCTGCCAGGAATACTTCTGATTCTGCAGCCCTCAGGCTTTATTGCTTTTC
CTGCTTAATGAGGTGAGGTTCGCTCAGCCCAGTGGCAATTCCTGTAAAGCCATTTGGAT
GACCCAATGGGGTGAGTTTACAGGGAAGCGCTCCCTGAGGGCTAGGCTGGCTGGAAGCAG
ATACTTTGCCCCCTTCCAAGGACGGTAATGAGGTTTGAGGCTTCCAATGGGGGCAGGGGA
TGATCTGGGCGCCAAAAGCCCTGGCCTGGGGTCAAAGATCTGGGCTCCAGCCCCAGCCG
GGCTAACTAGGCAGTCTCCTGTCTGAGCTGTACTCCCCTCATGGGTGAAATGGGGATACA
GGCACATACTTTATAGCCTGCAGTCTGTGTGTAACAGAGAACCATAAGCTGGTGGGTCCG
GGAGTGGGGCTGGGGGTTATTTCTCATGGTTCTGGAAGCGAGGAGTTGGAGATCAGGGTG
ACTGCATGGTAAGGTTCTGGTGAGGGCCCTCTCCAGGTTGCAGACTATGGTCTCTCAT
TTCATCCCCACGTGGAGGGAAGAGGCAAGAGAACACTCTGGAAGTTATAAGAGCACTAAT
CCCATTAATCCCATTCACCAGGCCTCCACCCTCGAGATCTATTCACCTCCCAAAGGCCCC
ACCTCCTAATCACAGCACGGGGGTTTGGGTTCAACATAGGAATTTTTTTTTTGAGATGGCA
TCTCACACAGTGTGTCAGGCTGTAGTGCAGTGGCGCAATCTCTGCTCACTGCAACCTCC
ACCTCCCGGGCTCAAACAATCCTCCACCTCAGCCTCCTGAGTAGCTGGGACCACAGGTG
TGCACCACCACACCTGGCTAACTTTTTGTACTTTTAGTAGAGACGAGATTTACCGTGT
GCTCAGATTGGTCTCAAACCTCTGAGCTTAAGTGATTTGCCACGTTGGCCTCCCAAAGT
GTTGGGATTACAGATGTGAGACACCACATCCAACCTCAACATATGAATTTTAGAGTGACC
CAAACATTCAGTCCATCACAGTCTCCTGCAGGATTACAGATGTATAATCAGTCTGTAATC
CACAAAGTTCTAAGCAAAGGAAAAGAAGTACCAATATCACTATTGCTATTGTTATTATCA
GCACCCAAGACCTTCCCCAGTCTCAGTGAGTGGAATATTAAGATGATCCCAAAGACGCTC
GACTTCTCTAACCCGTAATACTCACAGGTTCCACCCCTTTGATTGTGGGCAGAACCTGTG
AATATTATGATCTGACTGCCATGGTTACCTTATATGACAAAAGGGAGATTAGCCTGGGTG
GGCCTGACCTAATCAGAGAGCCCTCAAACAGGACTGGCTTTTTGTTTTTTGTTTTTTTTT
TGAGACCGAGTCTCGCTCTGTACCTAGACTGGAGTGCAGTGGCATGATCTCAGCTCACT
GCAACCTCTGCCTCCCGGTTCAAGCAGTTCTCCTGCCTCAGCCTCCTGTTGGCTCTTAC
TGGCCAAGGAGATTCAAAGTATGAGAGGGATTACAGCGTGAGAGAGATTTTCCATTGCAGG
CTTTGGAGGTGAAGGTGGCCAATACAGGAGGCCTCTAGAAGCTGAAAGCAGCCCCCAGT
GACAGCTAGGAAGGAAATGGGGACCTCAGTCCTATGGCCACACGGAACCTGAATGACCTTG
GAAGTGGATTTGTCCCAGATCCTCCAGACAAGAACTCAGCCGGACCAACATCTTGCAAT
TCAGCCTTGCGATGAGCAGAGAACTCAGCCATGCCAGACTCTGGACCAACACAGCTGTGA
GCTCATACATGGATATTGTTTTAAGCTGCTGGGTCTGGGATCATTTGTTACACAGCAATA
GAAAACCAATACATACTCTGTCAAGGAAGCCTGAGAATGGAAGGCCCTACTCAATCTAC
CCTCCCACTATAGTCTGGTGGTTAGAGACAAGGGCTCTGGAGTCAGATGGAACGGTGTTC
GAATCTTGGAATTCATCCACTGGCTGTGGAACGTTGTCCACACTCCCTTCCTCACCTC
TTATATCCTCGGTTTCCTCATCTGTGAAATAGCAGTGGAATAAAATGCATGGAAATCAT
CAGAGCAGGGTATGCATCGTAAGGACACATAGTAATAGCTCAAGAAACACTGTATATGTT
AAACATTAGAAACGAGCTGAGAACTAACACCAATGCACCTGTGTTCTTCAATGCACTGCC
TACACACCAGAGAAGAGGGGGAGGAGCCCAGATCTGCTGCTCTGGGAGCTACAGGCCAAT
TAGGGAATCAGGAACCTGAACAGAAAACCAACCTCAGGGAAAGTAGATGGTACATGTG
TTATGTTATTGTGGACATGGCGGGGCAAAGACAAGACCTTAGGTCTTTGAACTCCCCCTC
GGAGTCTGGCACAGGCCTGAGTGGAGCTCCCTCCTCAAGACTTCCTTTGCACTGGCTTCC
CTGAGGAAGCATTTGCATTTAGGGTTCTGCTGTGGAACCTCTTTCTCTTGATCTACATGA
AGCCTGAGGCCAAGGCCTTACACCTGTAAGGGAGGAGGTGGCCCTGGGCCAGGAAAAGG

FIG. 9X

GTGGGTCCAGTCTCCCAGTTCTGTCCCTGGCATGTACTCTCCCCAGGCCTATCCCACCCC
CAAGTCTCTCCAGGCTCCAAACCCTGAGGCCCCACCGACTGTCACTCAAGAAATCACCGA
GGCTGGGCATGGTGGTTCATGCCTATAATCCCAGCACTTTGGGAGGCTGGGGCAGGTGAA
TCACTTGAGGTGAGGAATTCAAGACCAGCCTGGCCAACATGGTGAAACCCCATCTCTACT
GAAAATACACAAATTAGCCAGGCGTGGTGGCGGGCGCCTGTAATCCCAGCTACTTGGGAG
GCTGAGACAATAGAATCGCTTGAGCCTGGGAGGTGGAGGTTGCAGTGAGCCGAGATTGCA
ACACGGCACTCCAGCCTGGGCGACAGAGAGAGATTCTGTCTCAAAAAAAAAAAAAAAAAA
AAAAAGAAAAGAAAAGAAAAGAAAAGAAAAGAAAAGAAAAGAAAATCACCAAGCCC
TCTCTATACCCATAAGCACAGCCTTGACCGAAGTCCTGACGGCTGAGCATGCAGCTCAAA
TCCCTGGGGAGATACCACTGCACATACACGAGGGCGGTTCGTATCCAAAAGACAGACCAC
AGCAAGCGCTGGAGAGGATGTGGGGCAACTGAAACCTGGTACGCTACTGGTGACATGTA
AGAGGGCGCAGCTGCTTTGGAAAACAGCTTGGCAGTTCCTCAAATGGTTAAGTATGAAAT
TAAGCAAATGGTTAAATGTAAATACGACCCAGCAGTTCCTACTCCTAAGTATACATCCAAG
AGGAATGTTAACATATGTCCACGCAAAACCCATACACAGACATTTCAGAGCAGCATTACTC
ATAGTAGCCAAGAAGTAAAAACAGCTCAAATATTTATCAGCTGATGAGTGGGTAAACAAA
ATGTGGGACAGCCATACAAAGGGACACTATAGGGCCATATAAAAGGGACCAAGCCCTGAT
GCATGCTGTGAGACAGATGAACCTTGAAAACGGTATGCTAAGTGAAAGAAGCCAGAACCA
GCAGGCCACAGAAGGTATGGCTCCACGGACAAGCAAGTCCAGAGCAGGCAATCCAGAGA
GACAGAAAGTGGATCAGTCATTGCCAGAAGTTGAGGGAGGGGAGAATGGGAGTCATTACT
AATAGGTATGGGGTTTCTTTCTGGGGTAAAACTGCTCTGGATTTAGATAGTGGTGATGGT
TGCACAGCTTTGTGAATATGCCAAAAAAAGAAAAAAACACTAAATTGTATACTTTTTTTT
TTTTTTTGAGACAGCCTCCCTCTATTACCCAGGCTGGAGTGCAGTGGCACAACTTTGGCT
CACTGCAACCTCTGCCTCCTGGGTTCAAGCGATTTTCTGCCTCAGCCTCCTGAGATTAC
AGGCGTATGCCACCACACTTGGCTAATTTTTTTTTTTTTTCGAGACAGGGTCTCCCTCTGT
TGTCCATGCTAGAGTGCAGTGGTGCCATCTTGGCTCACTGAAACCTCTGCCTCCCGGGTT
TGAGCAATTCTCCACCTCAGCCTCCCAAGTAGGTGGGACTACAGGCATGCACCACCCAC
TTGGCTACTTTTTGAATTTTTTTGTAGAGACAGGGTTTTGCCATGTTGCCCAGGCTGGTC
TCAAACCTCCTGGAGTCAAACAATCCATCCGCTCGGATATTTCTCACTGGCATAATCAGT
GCTGAAAGATCATTGAAAAGGGGCTTGCAATGATCCAGAGGTCACTGTTATTTAATGCGCT
CTCCTCATCTCCTGCAGGTTGTGACTTCAATATACCCTCTCATGAGACCTTTCTGGCCC
CTTATCTGTAAGTGTGACCACCGGGACCCCGTCTCCCAATTCCCTCTTCTGCTTTATTT
TTCTCTTTAGCATTTAATACCATCTGACATTCCAAACATTACCTTGTCTTGTCTGGTGT
TTGTACCCCCAACTAGAAGTGCTAGGGGGCAAGTACTAGGAAGCAGGGTTTTTTCTTTTT
CTTTCCTTTTTTTTTTGAGATGAAATTTCTCTCTTGTCTCCAGGCTGGAGTACAGTGGCG
CAATATCGGTTCACTGCAACCTCCACCTCCCGGGTTCAAGTGATTCTCCTGCCTCAGCCT
CCCAAGTAGTTGGCACTACAGGTGCCTGCCATCATGCCCAACTAATTTTTGTATTTTTAG
TAGAGATGGGGTTTTCACTCCGTTGGCCAGGCTGGTCTCGAACTCCTGACCTCATGACTCT
CCCAGGAGGCAGAGTTTTTTTTTTTTTTTTTTTTTTTTTTTGAGATGGAGGCTTGCTCTGT
CACCCAGGCTGGAGTGCAGTGGCGCAATCTCGGCTCACTGCAAGCTCCCAGGAGGCAGAG
TTTTTGTCTGCGTGGTTCACTGCTAAGTCCCCAGCACTAAGAGGACAGGACCTAACACAT
AGGAGGCACTCAGCAAACATCCATGAACGAATGAATGAATCTGTATCTCCAGTGGCTTTG
TCCTCTCTTATATCAGCTTTGTTCCACATCTTACACTTAGGAGGTGATTCAATTAAACAT
TGCTTTTTGTGTGTGTTGGTGGGGTTTTTTTTGTTTTTTTGTCTTTTTGTTTTTTGAGAC
AGCATCTCAATCTTTTGCCTAGGCTGGTGTACAGTGGTGCCATCACCCTCACTGCAGCC
TCAACTTCCCAAACCTCAGGTGATTCTCCACCTCAACTCCCCGAGTAGCTGGGACTACAG
GCACGCACCACCACACCAGCTACTTTTTGTATTTTTTAGTAGAGATGGGGTTTCACCATGT

FIG. 9Y

[illegible]

FIG. 9Z

GTGTTTACTACATGCCAAGCATAGGGTAAATGTCTTTTACTTTTTTTTTTTTTTTTTTTTTT
TTGAGAGACAGGGTCTTGCCCTGTTGCCCAGGCTGGAGTGCAGTGATGCGATCATACCTCA
CTACAGCCTTGAACCTCTGGGCTCAAGGGATCTTTCTGCATCAGCCTCTCTCTTAAGTAG
CTAGGACTCCAGGTGCACCACCATGCCTGGCTAATTTTTTTTTTTATTTTTATTTTTTTGTA
GTAACAGGGCCTCGGTATATTGCCCAGGCTGGTCTCAAACCTCTGGGCTCAAGTGCTCCT
CCTACCTCGGCCTCCCAAAGTACTGGGATTACAGGTGTGAGACACCATAACCCAGCCTCCA
TAAAATGTTTTAATCAAACCTCTGGGTATGTACCCAAAAGAAGCGAAAGCAGGGACTCTA
ACAAATATTTGTACATCTATATTCATAGCCACATTATTCATCATAGCAAAAAGGTGCAAG
AGACCCAAATGTCCATTGACAGATGAATGGATAAAACAAAATGTGGTGTGTATATATGCAA
TGAGATATTATTACGCCTTAAAAAGGAAGAAAATGTTGACCCATACGACAACATGGATGA
ACCATGAAGACATTATGATAAGAAAATATGCCCATCACACAAGGACAAGTGATGTATGAT
CCTTTTATATGAGGTTCTTAGAATACTCAAATTCAGAGACAGAAATCAGAATGGTTGGAC
TGAGCGAGGTGGCTCACACCTGTAATCCCAGCACCTTTGGGAGACCACGGTGGGAGGATCG
CTCGAGCCCAGGAGTTTGAGACCAGCCTGGACAACAGAGTGAGATCCTATCTCTACAAAA
TAAACCTTTTTAAAAATTAGCCAGGTGTGGTGGTATATGCCTACTACTCAGGAGGCTGAG
GTGGGAGGATTGATTAGACTCAAGAGATCAAGGTTACAGTGAGCTGTAATTGCCCCACTG
CACTGCAGCCTGGGAAACAGAGCGAGATTCTGTCTCAAAAAAAAAAAAAATTATAATCAATC
TTTACATGTTATTTTATAAGATGTTATTATTACCCTCCAGCCTTCTTTAAAGATGATGA
AACTAAGGCTCAGAGAGATGAAACACGTTCTTAGAGTCACATAGCTTATAAATGGTGAAG
ACAGGTTTAGATGCCAGGTCTTACTCTCCAAGGCTACGTTATCCTGCAAATTCTGGTGA
CCTGGGAGGTAAAGGGGAAATACAATCAAGCTCTAGGTGGCAGATGGAGTTAGCAAGTAC
CCAGTGCCAAACGGAACGTGTGGCCCTGAGAGCTCAGAGTTCAGTTCTAAATTTATTCTC
TCTGACCTTATTGTGGATTCTAAATTTGGCCAAACAAGTTCTTCCAGACCGATTAGTGAC
GTGGATACATTGTTTTGAAGATAAAACCTTTTCTGGTATGAAAGAAAAAAAAATAATA
TGCAGCATTGCTTGCGAGAAGCCACCCTGCCGCTGGTTAACAGCCATCTGAAATGATTC
TGGGTTTTCCACCTGATGGTGGACACATGTGCTTGTGGCCGATTTCTTGGGGACAGTGA
TTAAAACCATTTCTGAACCGAAGTCTGAATTTCTCCTCCTGAATGAACCAGAAACAAAA
CATCAGGAAATATCCAGGCATGAAAATTCTAACAGGGCCGGGTGCGGTGGCTCACAACCT
GTAATCCCAGCACCTTTGGGAGGCTGAAGGGGGTGGATCACCTGAGGTCAGGAGTTTGAGA
CCAGACTGGTTAACATGACAAAACCCCATCTCTACTAAAAATACAAAATTAGCCAGGCG
TGGTGGCAGGCACCTGTAATCCCAGCTACTCGGGAGGCTGAGGCGGAAGAACTCACTTGAA
CCCTGGAAGCAGAGGTTGCAGTGAGCCGAGATCACACCATTGCACTCCAGCCTAGGTGAC
AAGAGCGAAACTCCGTCTCAAAAAAAAAAAAAAAAAAAAAATTCTAACAGAACCAAACCTT
AAAATTCTCCCAAATTACAAATTAAGACCAAAATAGGCCTCTTTGGGTGGTTTCCAGGC
CAGGGAGGAGTTATGGGGTCTCGGATAATCACCAGCTGAGTCTGACTTCTCTGGGAAG
GTATTGGGGTGACTGACCTGTTTGTGACCCCTTCTCAGACACCCCTATCTCCAATCAGGTG
GAGGAGGCACGTGACCCACATGGTCTGGCCACTGATGACTGAACAAGCTATGGACACCGG
ACCCCGGAGAGACCATTCCTCACTGGCCACGAACATGAGTTCAGATACATGCCCCAAAA
GGATGAGCCTGGGTACTGGATTCCCTCCCTCAGAAACGTGAATCAAGAGACACAGGATGT
TCCTGTTGGTCCAGATACTTGAGCTAAAAGGTGATGGATACCTGGATGTGGGGTGGTCAT
TCTGGGGAGTACGTCCATATAGAAAGAGGAGCAGGTGCTGTGGGATTCTGGATCCAGTG
ATAGAGCTAAGTGGCTGGATCAAGCTTCACCTGAAACCCACTCTACTTGTCTTAGTCCAT
TTTGTGTTGCTATAAAAGAATACCTGCAACTGGGTAATGTATAAAGAAAAGAGACTTATT
TCATTTTATAGCTCTGCAGTCTGAGACATTTAAAGGGATGGCCTTGACTTCTGGCAAGGG
CTTGACGTTGCATCACCACACGCAGGAAAAGGGAAAACAGAAGGGAGACTGCAAAAAG
GGGAAAACCTGAAGGTCATCATAGCTTTATAATAACCCACTCTCACAGCAATGAGTTAGA

FIG. 9AA

TGGAGAACCAATTCAGTCTCACGAGAGTGACAGCAAGAACTCACTCACTGGTGAGAGGGT
AGCACTTCCAAGCCATTTCATGAGGGATTACCTCCATAGCCCAACACCTCCCCTAGGCC
CCGCCTCCCAACACTGCCACAGTGGAGATCAAATTGCAACATGAGTTTTTGGTGGAGACAA
ACACCCCCTATCCAAATCACAGCACTACCCCGAACTTTCATTACACGAACCAAAGAAT
CTTCCTTTAAATTAGTGTCATTGGGTTTTCTGGGATTTACCTTTTTTTTTTTTTTTTTT
TTTTGAGACAGGGTCTTGCTCTGTCACCCAGGCTAGAGTGTAGTGGCACAAACACAGCTC
ACTGTAGGCTCGACCTCCTGGGCTCAAGGGATCCTCCACCTCAGCACCCCCACCTATG
CCCTCAAAGTAGCTGGAATAACAGGAACCAACACCTGGCTAATTAATAAAAAAAAAAATT
TTGTAGAGGGCCGGGTGCGGTGTCTCATGCCTGTAATCCCAGCACTTTGGGAGGCCGAGGT
GAGTGGATCACCTGAGGTCAGGAGTACAAGACCAACCTGACCAACATGGTGAAACCTGT
CTCTATTAAAAATACAAAATTAGCTGGGCGTGGTGGCACATGCCTGTAATCCCAGCTAC
TCGGGAGGCTGAGGCAGGAGAATCGCTTGAACGCGGGAGGCGGAGGTTGCAGTGAGCCAA
AATCACGCCACTGCACTCCAGCCTGGGCAACAGAACGAGACTGTCTTAAAAAATAAAAAA
AAAAATTGTAGGGACACAGTTTCACTATGTTGCCCAGGCCAGTCTTCAACTCCTGGGCTT
AAGCAATCCTCCTGTCTTTACCTCCCAAAGTGCTGGGATTACAGGCATGAGCCACCACAC
CCAGCCTAACATGTTTTTAATAACCAAAGAAAATAAACATCTCCATAGCCTTGTGACAC
ATCCTTTTTTAACCTGAAATTGGTAGAGTAGGTTTCTGATTCATAGAACCCAAACAAACA
TTCTCCTCCCTAAAGCAGGCAGAGGCTCTTTGGGAGAGTTTACTTTCAAACAGTGTCCCTG
CAAGTCCCAAGTGACAAGTTCCCTTTCTGCTGTGAAGCATTCTGAGGAGAGGCCAAAGA
GGTTAAGGCTTAGCTGCAGGAACACGCTGTCCCCACGACAACCCCTTCTCAGCCTCGGAA
CTGCTGTTATCAGAGTTGTGTTGTCTCTTGAAGGTCCGGACAAAGGGTGAAGCCAGGACT
CCTGAGTCTAAAGGGCAGGTCGGGGCCTGGGAGAGAAGGGGAAGCTGGCCTGGGGCAGAG
ATATGTTTTCCATTTCCCCTGGGGTCCCGCGCAGGACAGCTGCTGTCCATAGCCAGTTCA
GCCAACCGTGGGAGGAATCACATTCACCTCGACAGGCAGGCAGTGGCGGCACTGGGATTTG
AACATGGGGCTGATGGGCTCCAGGCGTGGCACCTGTGCCACTACAGTGCGGGGAAGCTCT
GACTGCTGCAGCCTCCGTTGTGCGCCACATCTGCCCTCGAATTTCCCTTCCAGCTGGTTCT
GCAATCAGCAGCCCCCTCCAGACATCCCTGGGAGGCTCCAAGGAGCTGACTCCTGATGAGG
AAAAGGATCAGCCGCACTCACTCCTCCTCCAGCCACTTCCAGACCCACGGGAGGCGTG
GGTGTGACCCAGACTACCTGGGAGCATCTGCTTTTGTCTTTATCCAGGGCAGGACCCTCT
GAAGGAGGAGCCCTCAGAGAAGAAGGGAAAAGCCAAAAGGAATTAAAAGCCAATTTCCAA
ATGGAAATAAATAAGCAGTCATAATTGGCCACATTGGTGAAATTGGGCACTAAGGGCCAG
GCAATGGGCTGTGGGATAATGTCACTTGAGGCTTACGGCCACGCTCAGAGGAAGGTGCTG
AGGTCCAGGGAGGTTCAAGGCAGGTGACATGACTCACCCAGAGCCACTGGCTGGAGAGTGG
CAGGGCTAGCTTGGAGCCCAGGTGGTGGACTTCATAGGTGCAGCCGTGACTGCTGTCAATC
CCTCCCATGGGGAGTTGTTGCAGAGAGTGAGACACAGCGCCCTAAGCTATTTCTCCATCT
GGTGTGCCTGGATGCCTCTGCCACCCAGGACCCTCCTCTCGGGTGGCCCACCACTGCCC
TTCCATCACAGTTTCATACCTTCTCTCGTGGACCCACAGGGGTGTCCACTGGACCAGGACC
CCAGGGAGGATCCCAGTCCTGGCCCCACCACTCTCTGGCTGGTGACACGGGGGAAGTCAA
TTCTTTCCAAGCCTCAGCTTTCTCACCTGTACAATGGGAGTTTGTGCTAGACAAGAAGTT
TTCAGGACGGACACAGTGGCTCACGCCTGTAATCCCAACACTTGGGGAGGCCGAGGCGGG
TGGGTCACTTGAGGTCAAGGAGTTCGAGACCAGCCTGGCCAACATGGTGAAACCTCATCTC
TACTAAAAATATAAAAATTAGCCAGATTGTTCATAGCGCATGCCTGTAGTCCCAGTTACTC
GGGAGACTGAAGCCAGGAGAATCACTTGAACCGGGGAGGTGGAGGTTGCAGTGGGCCAAG
ATCTCACCACTGTACTCCAGCCCCGGGTGACAGAGAGAGACTGTCTCAAAAAAAAAAAAAA
AAAAAAAAAGTTTTCAAAGTCTGACTGCACCTGTTTGTAGGCCCTGAGCTCAACTGAGTG
AGTCACACAGGTATTCAGTACGTGATTCTGCCTCCAAGGCCACATTTTCTCCAGTGCAC

FIG. 9BB

CTCTGTCCTTCAGCAAGTGACCTGAGGCTGGGACTGCCACATGCTGCCTCCCATCAGCAC
CTTACCCAGACCTACTGCTGGCTACAACGTGCTTAATGATTGTCAGGTGGCTCACATACC
CTGTTCTGTTTCGGCTTCACAGTGTCTGCCAGCCCGTGGAGTATGGCACAGTGGCTACTAG
CCAGGGTCAGGCAGTGCGACTCCACCTCTCCAAGCGCCCCAGTGCAGCGTCTGATCATAG
GGAATAACTCTACCTGCTTCACAGGACTATTCTGTGAATACTAATTAGGATAACATATGT
GAAGGTCTTGCGCTTGTGAGCACATGAGCCCAAGGTCAGCTCCCTAAATGATGAAGTTC
ATATCACAAGAGGCCCCCTAGAGGTGAGGACAGCCTTTTCGGTACCTTTCTATGGCAAACAA
GCGGCTGGTTCTCTGCCACCTATTTTCTCCCCTTCATTGGGCAAGACTGAGCTGGCAGAA
TAATGGCCACATCAGTATTTACTCTCTACTTTCTGGCTTCCCTAGATTGGTGCCAGCCAT
TTGTCCCCCATCCAAGACAACCTGATCCCCATCCCCAGAAGGAAAACACCTCACCTCT
CTCACAATTTGAGAATGGCTGTCAACTCGAGCACATTATTAGATTTAATTGTATCTAATA
CTTGAATACCTAATATATTACTTTCTCTCTCTCTCTCTTTTTTTTTTTTTTTTTTGGAGAT
GGAGTTTCATTCTTATTCCCCAGGCTGGAGTGCAATGGCGTGGTCTCGGCTCACTGCAAA
CTCCGCTCCCGGCTTCAAGCGATTCTCCTGCCTCAGCCTCCCGACTTGCTGGGATTACA
GGCTCTCGCCACTACACCTGGCTAATTTCTGTATTTTTAGTAGAGACGGGGTTTCACCAT
GTTGGTCAGGCTGGTCTCGAACTCCTGGCTTCAGGTGATCCACCTGCCTCGACCTCCCAA
AGTGCTGGCACTATAGGCGTGAGCCACCGCACCTGGCCCCAATATATTACTTTCAAGGAC
AAAACTGCAATTACTTTTGCACCAACCTAATATTTAAGGTAGGACACCGTGAAGCCAG
TGAGATCTCTGTGGTGGACAAACAGCGTGGCTGCTAGGCTGTGAGCCCTCCCGCTGTCT
GCTCTCCATGCTGTGCGCCACTCCTGAGAGCTGGGTGAGCAGTCGCACTGTTGGCTTTGC
TCTGACCTCGAGTCTATTTCTTTTCCATGTGTGTGTGTCAGCCGCTGCCTGGAGTGGAAT
CTCCACTGAGGGACAGACCTTCTTTCAAGGCTCACATCAGGCAGGATCCCACGGGAAAGG
GGGCTGGCTGAGTCAGGAGGGTTCTCTGCCTGAGTTCCCGTGTGACATTGGGCAAATCAC
TCAACGCTCAGAGCTGCGCATTTTATCTCCATCTGCTTGGAGCAGGAATTGCAAAGAGT
TTCAGCTCAGGTTCCAACGCCAAGGTGGGAGATATTGGTTGCTTTGGGTATAGTGTGAG
ATAGATTCTGAGGCTGTGTATGGGCTCACTAGGAAAGGGTGTGTGTCTGCCATGAAGTG
GGAAATCGGTGGGGGAAGAAAAAAGAAACCCGGCTGGGCACGGTGGCTCACACCTGTAAT
CCCAACACTTTGGGAGGCCGGGGCAGGAGGATCACCTGAGGTTAGGAGTTTGAGACCAGC
CTGGCCAACATGGCAAAAACCTTGTCTCTACTAAAAATACAAAAATTAGCCAGGCATGGTG
GCGCATGCCTGTAATCCCAGCTACCTGGGAGGCTGAAACAGGAGAATCACTTGAACCCAG
GAGGCAGAGATTGCAGTGAGCCAAGATCATGCCACTGCATTCCAGCCTGGGTGACAGAGC
GAGACCCTGTCTCAAAAATAAAACCCAAAAACAAAACAAAACAAAAAACCCCAT
GGTGCTGGCCGGGTGCGGTGGCTCACGCCTGTAATCCCAGCCTTTTGGGAGGCTGAGGCA
GGAGGATCACTTGAGCCCTAGAGTTCAAGACCAGCTTGAGCAACATGGCAAAACCCCTGAC
TCTACTAAAAATACCAAAAAAAAAAAAAAAAAATGCTGGACGTGGTGATGTGTGACTGTGGT
CCCAGCTACTCAGGAGGCTGAGGCAAGAAGATTGCTGGAGCCTAGGCCTGTCTGGCTAAC
TTGGCTCTACCTTGGCTCAGAGCCCCCTCTTCTTTTTTTTTTTTTTTTTTGGAGATGGAGT
CTCGCCCTGTGCGCCAGGCTGGAGGGCAGTGGTGTGATCTCGGCTCTCCGCAACCTCCGC
CTCCCGGGTTCAAGCAATTCTCCTGCCTCAGCCTCCTGAGTAGCTGGGATTACAGGCACG
CACCACGACACTGGGCTAATTTTTTGTATCTTTAGTAGAGATGGGGTTTCTCATGTTGG
CCAGGCTGGTCTCGAACTCCTGACCTTGTGATCCACCCGCCTTGGCCTCCCAAAGTGCTG
GGACTACAGGCATGAGCCACTGTGCCTGCCGGGTGGGTTTCTTATGGCGAATGATCCAC
ACCACTTTTTCAGTGCACGTAGTTACATGGAGTAGAACACAGACAGTCACACCTCCACGTT
CTTTTGGCCACCATGACTGGTTCAACCAAGGAATCTGCTCCAAGCTAGGTGAAGGAAAT
CAGCCCTAAGGCCCCCGTCCGCCACGCACCTCACTGTATCCAGCTATACCTAAAGCCAAA
CCGAATCCCAGACATCTAAATTTTATGAGCCAGTAAATCCCTTCTTTGCTTAAGCCAGT

FIG. 9CC

ATAAATCAGGGTCCCATCCCTTGTAATGCTGAGTCCCAAGGCCAGACTCTGGGCCTTTC
GTTTTTCCATTACAGGCCCCAGAATGAAGACCAAGGAAGGGTTTATTAACATGACAGTGAA
CATCTAGGGCCTTATATACATTTTTCTTCAATTACAGCCAAGACAAGAGGCCTAGAATACA
GAGAAAGGACACCCATTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTT
GAGACGGAGTCACGCTCTGTTGCCAGAGTCACGCTCTGTTGCTGGAGTGCAGTGGCGCA
ATCTCGGCTCACCGCAATCTCCGTCTCCCGGGTTCAAGCAATTCTCCTGCTTCAGCCTCC
CAAGTAGCTGGGACTACAGGTGCCTGCCACTACACCCAGCTAAATTTTGTATTTTTAGTA
GAGATGGGGTTTCGCCTGTTGCTCAGGCTGGTCTCGAATTCTGACCTCAGGTGATCCAC
CTGCCCCGACCTCTGAAAGTGCTGGGATTACAGGCGTGAGTCACCACGCCCAGCCTAGGA
CACCCATTTCTTTGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTGTTT
GCGTCTCACTCTGTTGCCTAGGCTGGAGTGCAGTGGTGGCCATCTCAGCTCACTGCAACCT
CTGCTGGGTTCAAGCGATTCTCCCTCCTCAGCCTCCCAAGTAGCTGGGACTACAGGCGTG
TGCCACCATGCCCAGCTAATTTTTGTATTTTTGTAGCAATGGGGTTTCACCATGTTGGC
CAGGCTGGTCTCTAACTCCTGGCCTCAAGTGATCCACTGCCTTAGTCTCCCAAAGTGCTG
GGATTACAGGCGTGAGTCACCGCGACCAGCCTAGGACACCTATTTCTTCAAACATAGGAA
GAAACATCTTATCTGCATGATCCCTCCTGGGGAGCTATCTTACGGTCTTATGTGATAAGG
TGACCTCTCCTTTGGGTGAGTGGAGTAAAAAGCGGGCGAGGTATCTGGAATATGCTTCT
ATCCCTCCTAACCTCCCCTACAAACAAAGCTTTCCTGAATGCCTTGTCTTCTAGCTTCTG
GACTCTGAACCTAGCTTGGCTAAATTTCTTTTTAAAGCATCAGCATAAATCATGAATAC
CTTGGGAAGGGAACATTAACCATCAGCCGGCAAAGTTAAATTCCTCCAGCCCACTTA
AATGGACTGAAACCTCCACCCCATCCCCAAACGAGCCTCCCTGGCCTTGTCTTGAACAT
TTCAAATCGGGTTTCTGCTTTAAGTTCTTTAACTACTTTTTTTTTTTTTTTTTTTTTT
TTTGAGAGGGAGTCTCGCTCTGTTACCCAGGCTGGAGTGCAATGGCACGATCTTGGCTCA
CTGCAACCTCCACCTCCTGGGTTCAAGTGATTCTCCTGCCTCAACCTCCCAAGTAGCTGT
GATTACAGGCACCCGCCACAACGCCAGCTAATTTTTGTATTTTCTAGTAGAGACGGGGTT
TCACCATGTTGGTCAGGCTGGTCTCAAATTCCTGACCTCGTGATCCGCCTGCCTCGGCCT
CCCAAAGTGCTGGGATTACAGGCGTGAGCCACCGCGCCCGGCGCTGCTTTAAGTTCTTA
ACACGTCCTCACCGCGGCTCAGCTCACTGTACGGCCCCTGCATAGAGAGGGGAGGGCAGG
GGCCATGATACTGAACTCACAGCTCTGGGCATTTCTGAAGTCTGGCCCTTGAAGCTTTTC
CTAGAGCAAATTGTTTTCTTCTCCCCCTTCAGGAACTGAAAATTCACACAGCAGCCGTGG
GAGTCAGAGTAGCAAAGGCTTTGAGATCACATAGACCTGGGACACGTGCTTTGTGA
TTACGGGTAAAGTTCCGTAGCCTCTCTGAGCTTCCATTCTCTTTCTGTGGAAAGGGGATA
CTAATACTGCCCCTGTGAGGGCTGTTTCTGAGATTCCATGCTGCTGTGACTAGCATCTG
CCTGACTAGCAGAGGATAGTTACAGTGTACGCTCCATGGCCCTCTCATGAGACTGGGGC
AGGGGGTGGGAAGGGTGTGTTGGGACACCCTGGGAACCTTAGCATCATTCTGCCATGGGAG
TATGACCTGCTGTTCCCTGGCTGCCCTCAGTCTGAGGCTTGCTCTGCCAGTCCCGGGAGA
ACTGTCCACTCATCATCCCGGCAGAGACAGATCTTTTTTCTGCTGTGCACAGGTGGGGAA
ACTGACTCTGCCCAGTCACCTGAGTCTGTTGACAGAGGCACCTGGCCATCTGTATCCTGG
TCCTCAGCTCTGAGACCAGCAGGAAAGAGAGGAGGACATTCTAATGGGGGACACAGTGA
CCTTCCTCCTCCTGCCCCTGATGCTCCACCACTGTGGTCCCCTGGTGGTGCCAACCACT
CAGACTCCAGAAGCTGAGTCCCCTCTCAGTCCCATGAACAGGCAAAGCTGCTTCCTGCAG
AGGCCCCAACCTTTGCGCCTCCTCCTCAGAGAATCTGATTCTCCCTCCTCAGTGCGGTTT
CTTTCCACACACACCCACACAACAATCCAGACTCAGAGAATGGAGTGCCTCAAATTAGG
GGAATGGCCGGGCACAGTGGCTCACACCTGTAATCCCAGCACTTTGGGAGGTCAAGGCG
GGCGGATCACTTGAGGTGAGGAGTTCAAGGCCAGACTGGCCAACATGGCAAACCTCCATC
TCCCCTAAAAATACAAAAATTAGCTGGGCGTGGTGGCGGGTGCCTGTAATCCCAGCTACT

FIG. 9DD

TGGGAGGCTGAGGCGCGAGAATCACTTGAACCTGGATGGCAGAGGTTGCAGTGAGCCAAG
ATCAAGCCACTGCCCTCCAGCCTGGGCAACAGAGCGAGACTCCATCTCAAAAAAAAAAAAA
AAATTCAGGAAATGATGAGGCTGCACACACACATGCACACACCACACATGGCTCATGCAT
GCACATGACATGCATTACATGCACACATGCCCATGCATGTATGTGTTACATATGCACA
CACAGCACCTGCTCACATGCACACACAGGACAGTCACACACATGCACACACACGCATGCA
CATGCACACTCACATATACATTATACACATATGTACACATGGCGCGCACACACCCATACA
TGCATGCTCACACATGTGCACACATGGTGCACACTCACACACCCACACATGCATGCTCAC
ACATGCACATACACACTCCCCTCTTCACCCAGCCACCCCGCTATTCACTTCTGGATCCCCT
TACCCAACCCCTGGTTTCAGGACCACCTCTCCTGACCCCTAGGCTAGGTCAGGCCACTCTCC
TGACACCCTCATTACTCATAGGCTTTCTCTTCAGCACTTTTACCACGATTGTGACTAATT
ACATGTGTGATCATTTTGGTACCAGGTAATATTAATAGCTCGAAAAATATTACTGGGCTT
TCCTCTTTGGCCTTTCTGGGTAAGTAGCCCTTCCCCTCTCAGGCCTGAGGCACCTGGCTA
CCTGGAAAAATATTTGAATTTGTACAGAAGGAATAAAGAGGACCATGGCAGATCTAGTTCC
TGATCATCAACACAGACTTTGCTATGAGACAGTAGGTTTAGAAGTCACCGCTGCGCACTG
ACCCCTCTGGGGGCTTGGGAGGAAAGTGCTCTGAGACCACCTCCAGCAGCTTAGGGGTGG
GGCCCCTGGAGGTGCAGCAAGTTGAGAGGAAGGAAGCCCTGGTGTTCGCTTTCTTGGC
CACACTGGTCCCCTCCGGGCCAGGATGGGCTCAATGTGTTCTTGCTCAGGTAGGTGACAC
CTCATTAAGACAAGGGGCAGAGGGACCTGCAGAAGGGTCTGGGAGTAGATGGCTCAGGTA
GGGGTCAGATGCAGTAGAGAAGAGGGGGCTCTGAAAAAAAAAAAAAGGCTGGGCGCAGTG
GCTCATGCCTGTAATCCAGTACTTTGGGAGGCCAAGGCGGGTGGATCACCTGAGGTGAG
GAGTTCAAGACCAGCCTGGCCAACCTGGCGAAACCCCATCTCTACTAAAAATACAAAAAT
TAGCCGGGCGTGGTGGCAGGCGCCTGTAATCCAGCTACTCAGGAGGCCGAAGCAAGAGA
ATCACTTGAACCCGGGAGGCGGAGGTTGCAGTGAGCTGAGATCGCACCATTGCACTCCAG
CCTGGGCAACAAGAGCAGAACTCCATCTCAAAAAAAAAAAAAAAAAAAAAAAGAGAGGG
CGCTCTGAGCCAAGGTAGAGCCAAGTCAACCAGGCAGGCGGAGGCCAGAGCATGAGTTT
TACCTACTGCCGGTTTTCGGCCAAAATGCCAGAAAGCCAAGCAGCAATCTTGGGCATCGGA
CTTGGCTAGAAATCCCTCTCCTCCTGGGAAGTCTCGTCATCAACACCCAGACACCCCCAC
CCCCACCCACCCACCCAGTGCCAGCTTAGAGAAAAGCTGGGAGGAGCAGAAGGAAATTTG
AGACCAAGCATTACCTAAAGGCCTAAAGTACTGGATCAGATTAAATTAAATCTAGTTCTT
TTTCTTGTGTCCTATGAGTAGGCTTTGTGAGAAATATCAGATCCATTGCAGGAAATAA
AGAAAAGACATGTTCTCTGCAGACCCACATGGCAGGTGAGTAAATGTACAGCATGGATAT
CCGTCAACAGCGGTGCATTCCCCTAGGCAGGCACCACACCGTCTGTGGAGCATTGTGTT
AGTAGGCGCTCAGTAAACACCCATGAAGTGAGTCAATGTATGATTAAATTCCAACCCTGC
GTGGCAGCAGACAGGTGGCTGGTCTCTGGGACTGGGGAAGAACAAGGCTCTGTATGTAGT
TGGCTTCCTCTGGAAGGACAGGTTTTAAGTCAGATCCGACTGGGTTCAAACCTTGGCTTG
GCCAAGGCAGCTTCTAGCATGGCCTCCAGTGATCCACCTCCTGGCCTGAGTGTGGGTGG
ACACTTCTGCTATTTATTTATTTATTTGATTTATTTTGAGACAGAGTCTTGCCCTGACAC
CCAGGCTGGAGTGCAGTGGTGTGATCTCCGCTCACTGCAACCTCCACCTCCCGGCTTCAA
GTGATTCTCCTGCCTCAGCCTCCCAAGTAGCTGGAACCAAGGCATGCACCACCATGCCT
GGCTAATTTTTGTATTTTATGTTGTTTATGTTTATGTTTATGTTTATGTTTATGTTTATG
GGTTATTTTTAGTTGTATTTTATGTTGTTTATGTTTATGTTTATGTTTATGTTTATGTTT
AAACTCCTGACCTCAAGTGATCCACCCACCTCAGCCTCCACAGTTCTGGGATTACAGGC
ATGAGCCACCATGCCAGCCATGGGTAGGCACTTCTAATGAGCAGAATATGGCAAAAGGG
ACAGGATGTACCTCCAAGATTACGTTATAAAAGACAGTGACTTCCACCTTTCTCTCTCC
CTCTCTCTCATATGAGCACGCGCGGTGCACGCGCGCGGCACACACACACACACACACA
CACACACACACATAACTTCTTGGCTTTCTTGCTTTGACACAGCAAGCTGCCATGCTGGAG

FIG. 9EE

ATACCCACATAGAAAAGAATTGAAATCAGCCTCCAGCCACTAATAGATAGATAACTAATA
GCAATAGATAACTAATACAGCCACTCATTAGCTCTGCCCTCAGACCAGTTCTTAACCTGT
ATGTGTGTACCCTCATCTGAAAATGGGCATAATAGCACATCCCCACCATACAGGCTAATT
GTGAGGACCACGAAAATGAATGGATGGGTGGATGGGTAGATGGGTAGATGGATGGAAGGA
TGGTTGGGTGGGTGAATAGATGAATGGGTGGGCGAAGGGATGGATGGATGGATGGATGGA
TAGATGGATGGATGGATGGATGAGTGGGTAGATGGGTGGATGAGTGAGTGGGTGGGGATG
GGTAAATTGGTGGATGGATAGATGGATGGGTGGAAGGAAGAAAAGATGGATGGATGGATG
GATGGATGGATAGGTGGATGAGTAGATGGTTAGGTGGATAGGTGGATGGGTGCGTGGATG
GATGGATGGATGGATGGATGGATGGATGGATGGGTAGGTGGGTGGGTGGGTGATTGGATG
GATGGAAGGATGGATGGGTGGATAGATGGAACCACTGGCTGGAGCCGTGTGAATATCACA
GAATCAGGAAGTGAAGCCCAATCAGTAAGTCCCGATGGGGCTGTGAATAACCTCACTGA
GCAGCTGTCACAAGGCTAAGCACCTGGCTGTCCCCCTAGGAAAGCCCCTACCAAGGTGA
AGCTCTACCTCCGTCCTCACTTCACCCGCAGCCCGTTCTCTGGGGCTGCAAAGGACCA
GTGCTTAGAGCTACCTCTGGTCAGAAGCCAGCAGAGTCTTACAGTAAAAGGGGTTGGGGC
CCCCTGCTGAGCTCAGTACTGAAGAGGAGGCATGGCCAGGCAGCCAGCACCTCTGCCC
TCCACCCAGCAACCCCCAGGCTAGATTCTGCCATCCTTTTCTCATTGATTATGTTCCCCA
TGAGGCTGCTCTTGCCCAAAGCTGGCCCAGCTTGACACCACAGAGACAAACCAACCAAC
AGCCACAGCATCTGATAGCCCCAGTAAGTACTCTTGTGGGAAGGCCGCGGCCAGCTGGC
CTGAGTCCCACAGCCTGACCATGGCTCCGTGAGTGGCCAGTCCTGGGGGCAACAGGGACA
CAGGGGAAGGGTCAGGCCCCAGCTCTCATGGTGTAAACAGATACCAGCTCCAAGTCAGGAG
AATGGACTTTCCACCTGCATGCACGTACAGTGCCCAAGAACCTAACAGACATGCATCAG
ACTTGACACCTTCCCCACCCACCCAGGTTTGGCTGCCCATAGAGGCGCACACCTGT
CCTCCCATCTCCTCCTGGGCTGGAGCCATGTGAGCAGAAGGGGATGTGAAGACAGATCCT
TGATGTCCACAGGTGCGGGGACTGCTTGCCAACCCATGGCAACTCACCTGTAGCGCATGG
AGATTTGGGGGTAAACCCAGTGATGCTGAGTATGTGGGCTGCCCAAGCTGGGTGGCAACC
AACCCAGCATTGAATGTGCTGAGAGCTGGACCGGTGGATGTCCCCACTGCCCTGAGGCA
GGTCCAGGAGAAGGCTCCTACCTGCTGTGCAGAGGGCAAGGTAAGTCTTGTCTTGATCT
ACAGCCAGAAGACAGCAGGGCTGCTTCTGTCTGCGTCCCAGCCTCCACTCTTCTCTAGAT
ACCATCACCAACCATGACAACCTGCAGTTAACTTAGTGAAGACCCCTAGGTGCCACGCGC
CCATGCAATACCCACAGACCCCTCTGAGGTAGGCCCTGTAATGGTCCCTACGTTAGGGAG
GGGCGGTCCCAGGCCAGCTGGTCAGTGAGGGAGGTAGGATTTGAACCCAGGCAGCCTGG
CTTTGGGGCATTGCTCTCTGCCACGTGGCCGGTTCTTACACCCTTGCCAGCTACCCCTG
CAAAGGTGGCCAGCCTGGCTTTGTCTTTCAGGATCCTCTGATCTCTCTCAGGGGCTCCA
ACCCACCCACTGGCTCTCCCTGCTGACAAAGCAACTATTTCTGGCCCCAAAGCCCCAGT
CTCTGGAAATGACCCTCCTTCTTCTCCAGCTCATGGCTGTCAGAGGCTCCTAACTGCAC
CCACCCCCGATCAGCCAAAGCCAATTACTCCACGTCCAAGACACAGGCGTGTTAAAATGT
AAACGGCCATTTCATCATCTGGCAGCGTGACCGTTTGCCCCCTATCAGGCCCCAGTCCGGCC
TCACCACGCCTCCATGCTCTCCTCAGCGTCAAAGAAACAGCCTTGTCCTGCCAGGGCCTT
CGCCAGGCCCGGCCCTGGGAAGTCAGGGCTCTCTGACCCAATGGAGCGAATCGTTGCGAGC
ATTTATTTAATAGCATTATCTTGATGATGAATAAATCACACCTTCATGAACCATTTTTTC
ATTTGTAGCCCCAAGTCAAGACTCCCAAATGTTACCAGATGTCAGGCATGAAATATACA
CCCCTGGCAAGCTCTGCCATGCACAGGAGTCATGCTGCTTTCAATCCACGGGAGAGCCGG
ACACGAGCGTTCCAAGGCAGGAGCAGAACTCCATGTTGGCCATTATAAAGACAAGATTCC
TTTTCCCCCGCTTTTTATAGCCTCTCTGGGTAAAGATGTGTCTGGAAGGAGGTGTGGGCCA
GGAAAGAGCATATGTCTGATGCCTGGGATTCCAGGACAGAAAGTACAGCCGACTCCAAGC
TCTTGGGATGGGATTGGAGGGTCTCAAACCTTGCCAGCTTTGGAGTCAGAGAGAAAAGA

FIG. 9FF

GTCCCAACCCAGATTTATCATTTGCTAACAAATGTGACCTTGGGCAAATCAGCTCACCT
CTCTGGCCCTCAACAGAGATAATCCTGGGACCTATTTACAGTCATGGAGAGGATTAAAT
GGGAAGAGGAATAAAAGGAGTTTGGAGAAGTGCCCAGGACATAGTATGCACTGAGCAAAT
TCCGTAGTAAGAGGAGTATTAGTAATAGCTACTATTGATTAGGTGGTGTGTGAGTTGAA
CAGTGTTCCCCCAAATTCATGTCCACCCAGAGACACAGAATGTGACCATTTGTGGAAAT
AGGGTCTTTGCAAATGTAATTAGTTAAGATGAGGTCATACTAGATTAGGGTAGGCCCTAA
GTCTAATGACTGGTGTCTTATTAGAAGAGGATAGGGGCTGGGCACAGTGGTTCACACTT
GTAATCCCAGGGCTTTAGGAGGCTGAGACAGGAGGATGGCTTGAGCCCAGAAGTTCAGA
CCAGCCTGGACAACATACTGAAACCCATCCAGTCTCTAAAAAAGAACTAAAAGCCAGGT
GCAGTGGCTTACATCTGTAATCCTAGAACTTTGGGAGGCTGAGACAGGAGGATCACTTGA
GGCCAGGAGTTCAAGACCGGCTGGGCAACATAGCAAGACCCCATCTCTATTAATAAATA
AATAAATAATAAATAAAATTAACCTAAAAAATTTAAAAATTAGCCAGCCATGGTGGGAG
GATTGCTTGAGCCCAGGAGTTTGAGGCTGCAGTGAGCTATGATCAGGCCACTGCCTCCA
GCTTGAGCAACAGAGTGAGATCCTGTCTAAAAAAGATGGGACACACAGGAAGTGGTGGT
GCAAAGATGGTGCAGCCGCAAGCTGAGGAACAACAAGGATCCCTGACCACCAGCAGAAGC
TAAGAGGCAAGAAAGGATTCTTCCTTAGAGTCTTCAGAGGGAAAGTGGCCCTGCTGACAC
CCTGATTTCAAACCTTCTAGCATCCAGAACTGTGAAAGAACGAGTTTCTGTTGTTTGAAGC
CACCTAGTTGGAGGTGCTTCATTACAGCAGTCTTAGGAAGCTAATACAGGTGGTTACCAT
GCACTAGGTTCTCTGCATTATAAATGCATCATATGTGTGAATTCACCTAAATCCTCACA
CAACTGTAAGAGGTTACTATAACCATGTTACAGAGAGAGTGATCAAGACTCAGAGAAGTTA
AGGGACTCATAGCTGGATCTAGATTTGAATTTGGTCTATCTGGTCTAAAGCCCACTTTTA
AGGACCAACTGTGTATGCCAAGTGCTAGAGCCACTTCCTTGCTCAGTCTCACCGACCAC
ACTGTGCTATCTTTATTACATTTTGCAGTTGAGGAAACAGGTTCAGGCAGGTCTGTCCA
AGGCCACCCTATTTAGGGTCTGACAAAGCCAGGTTTCATCTGACTCCAATGCCAACGCCCA
TGCTGTTGACCAGACCATCCCTGCCAACTTCCCAATATGAATGCTTTGAGTGGCTCTCGG
CCCCCGGGCTGTGGAACACCAGCACACCAGTGCCTGGAGGGCAGCAGCTGTCCAGCAAAT
GTCTGCTCATTCAATTTGTTACGCATTACAGGCAAGTCGAACGGCAGACGGGGCAGGAGA
TCCAGGGCCAGCATCGATGGTGCAGGGAGCCCTCTGGCCCTTAAATATCCTCAGACAAT
CCCAGAAATCATTCCTGGGTCTACCTTATGTGGGTTTTCTAGAATAGCTACTGCTGAACT
GTAGGGTAGTGAGGGAGAGACACAAATACAGGCAAAACCACACAACAGCGAAGATTCCAT
AAGGGCAGGAGTGTTTTTCCACCAGGAAACAAGAACCAGTTCATCTGAGTTCCTTCGCCCT
TTTGTCCCAAGACACAAAAATGTCAAAAATGTGCAAGGGCTCTGGCCACAGATGGATACT
GTGTCTCACCCCGACGGGCTGCTTCCTGCATGGGGCTGAAGGTCAGGGTGAAGGTTGCTG
CCCTGAGAGTCAGGGGAAGTTGGTCTGCCTCCTGCTGTGTACGTACTTGCCATGGTGTG
TGGGATGAGGCCCATCATCTCCAGAATTAAGCTGTAGCTGACTATAAAACCACAGGTGA
GGGCTGGGTGTGGGGGCTCATGCCTGTAATCCCAGAATTTTGGGATGCTAAGGCAGGAGG
TTCGCTGGAGCCCAAGAGTTCAAGACCATCCTGGGCAACATAGAGAGACCCCGTCTCTAC
TAAAAATACAAAAATTAGCCAGACATGGTGGTGCATGCCTGTGGTCCCAGCTACTCTGGA
GGCTGAGGTAGGAGGATCACTTGAGCCCAGGAGGTCAAGGCTGCAGTGAGCCGTGATCAT
GCCACTGTACTCCAGCTGGGGCCACAGAGCAATACTCAGTCTCAAAACAAAATAAAAAA
CCCACAGGTGAGGTACATCAGGCTTTTCCCTTTTATTCTCCCTAAGGGCTCCACAACAT
CAGAAATGGGTTTTCTCTATCAGTGCATCCTCCAGATTCTACTTTTTTTTTTTTTTTTTT
TTAGTAGAGGTCTTGCTTATACCCAGGCTGGTTTTCAAACCTCTGGGCTCAAGCAATCCTC
CTGCCTCATTCTCCCAAAGTGCTAGGATTACAGGTGTGAGCCACCCACACCCAGCCAGCA
TACTGGGCCCTGTCCGTCAATCCATTTGCAGTCACCAAGCACCAGCTGCGTGCACCGCAT
TGTGCCAATGTCTGGAAGGATGCTCACAACATATCAACACAGATAACTAATAATATCAACA

FIG. 9GG

ATACCACAGTGTAATGCAAAGCAATATGTGCCTGGTCTCATTTAATTCTCACATCAAAC
CCTTGGGATACATATCATTAGCACCCCTCATTTGCTAGAGAAAACCTCAGTTCTGAGGGTGG
ATGATTTGCCAAGGCCCTGGGAATTCGGACTAACTCCCTTCATAGGTGGCTGCAAGTGCC
TGTGGCCCAGACATTCCCATAGATAGGTCATTTTCTCACACCAGCTTATATTTCTTGTGC
CAGACACAGGGTCCAAACCCATTTGCATTACGTCTCTGAGACTTCACAAGACCTTCCTGT
GAATTTGTTACCATTATTATTATTATTTTCTTGTTTTACTTTTTTTTTTTTTTTTTTTT
TAGACCGAGTTCTGCTCTTGTGCCCAGGCCTGGGTGCAGTGGCGCAATCTCGGCTCAAT
GCAACCTCCACCTCCCGGGTTCGAGCGATTCTTCTGCCTCAGCCTCCTGAGTAGCTGGGA
TGACAGACACACACCACCACACCTGGCTAATTTTTGTATTTTGTAGTAAAAATGGGTTTTC
ACCATGTTGGTTAGGCTGGTCTCAAACGCCTGACCTCAGGTGATCCACCTGCCTCGGCCT
CCCAAAGTGCTGGGATTACAGGCGTGAGCCACCGCGCCTGGCCTTTTTTTTTTTTTTTTG
AGACAAGATCTCACTCTGTCAACCAGGCTGGAGTGCAGTGGGGCGATCTCAGCTCACTGC
AACCTCTGCCTCCCTGGTTCAAGTGATTCTCCTGCCTCAGCCTCTCAAGTACCTGGAATT
ACAGGCACGTGCCACCACGCCCAGCTAATTTTTGTATTTTGTAGTAGAGACGGGGTTTCAC
CATGTTGGCCAGGCTTGTCTTGAACCTCAACCTCAACTGATGCACCTGTCCCGACCTCC
CAAAGTGCTGGGATTATAGGCATGAGCCACCGCGCCTGGCCTTATTATTCGTCTTCTTAG
TCTGCTTTCAGATGAGGACACGGAGCCACAGGAGTTACAAGGGTGGAGGTGCTGGGAAGT
CAGGACCAAATCAGCCTCCTGACTCCCCATCTCATTTTCTCAATCATCATGGGTTTTGC
CCCCAAGAAGAGAACCAGCCACCATGGGTGCTAAACCGGTGGCTGATATAGCAAAGTGT
GTTGGAGCAGAGATCCCAGCGGGCTTCTAGAGGAAGATCACAAAAAATGGGCAGAGCCC
ACAAGGCACAGTACAGGTTTCTCTCTCCAGTCCACATAAGGGCATTACCAGGAACCTG
GGGGCTGGGTGGCCTTGGCCCAACCCTCTGAAACTCACCCTGTGGCTCCTCACTCACCAG
ATGGACACAGCAGGAATCTGTCCCACCTGGCTCAGGGAGGGCCTACCCCCACCTCCCACC
CCACCCACAGGCCTGTTTGCATGCCAGGCCAGAGTTGGCCACATGCCACATATCTCTC
CTCGTTCTGCAGGCTCCGGGAAGGAAAGTCCAAGGCCAAGGTTATCATGGGGTTCACATA
CCTTAAGGGGTGGGTGGAGGGGTTGGCTCACAGCTACAGGTTATTCAATGCAGTGCTAT
TCGTGATCACAAAAGATCGGAAGTATCTCACGTCCATCATCAGGGGACTGGACTAAGAT
ATTTTGGCACAAACCACATACGACTCAAGTGTCAAGGGAGGAAGAGTGGGGGAGTCTTGAA
TAAATAACAAAAGCTGGCGTTGACACAGGACTTTGCACATGGTGGAGGCTCCTTGCAAGT
GCTTTGCATGTTATTAATCAATCCTTACATCACCCAGGAGGAGGAACCATATTATT
ATCTGTTTAAATGCCTGTAATCCCAGCACTTTGGGAGGCCAGGTGGGAGGATCACTTG
AGTTCAGGAGTTCAAGACCAGCCTGGGCAACAAAGTGAGACTTCATCTCTACAAAAAATT
CAAAAAATTAGCCAAGCCTGGTGATCCACACCTGTAGTACTAGCTATTTCAGGAAGCCAAG
GTGGGAGGATTGCTTGAGCCCAGGAATTCGAGGCTGCAGTGAGCCAGGATTGCACCACTA
CACTCCAGCCTGGGTGACAAAGCAAGATCCTGTCTCAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAATATATATATATATACACACACACACACAGAGAGAGAGATACACATATA
ATATTTTAAATATATATACCTCAAAAAATATATATATAATTTTAAATATATAAAT
GAGGGTGCCACTTGGTTGAGTTTATGGTTAAAAAAGAATAAAATTTAAAAAAGAGGCA
CCAAGAAGTGAAGTTTCTTGCCCCAGGTTTCATGGCCAACAAACAGTGGACTGGGCCGGGC
ACGGTGGCTCACACCTGTAATCCCAGCAATTTGGGAGGCTGAGGTGGGAGGATCGCTTGA
GTTTCAGGAGTTCGAGACCAGCCTGGGCAACATGGCAAGATCCCATCTCCACTGGTGCAGT
GGCTCACGCCTGTAATCCCAGCACTTTGGGAGGCTGAGGTGGGCAGATCACAGGTCAGG
AGATCGAGACCATTCTGGCAAACATGGTGAAACCCTGTCTCTACTAAAAATACAAAAAA
AAAAAAAAAATTAGCCGGGCGTGGTGGCGCTCACCTGTAGTCCTAGCTACTCGGGAGGC
TGAGGCAGGAGAATCACTTGAACCTGGGAGGCAGAGGTTGCAGTGAGCCGAGATCGCGCC
ACTGCACTCGGGCCTGGGCAATAGAGTGAGACTCTGTCTCAAAAAAAAAAAAAACCGTCTC

FIG. 9HH

TACTAAAAAACTGCAAAAATTAGCCAGGCATGGCGGCATACACCTGTAGTCCCAGCTACC
CAGGAGGCTGAAGTGGGAGGATCACCCGAGCTCAGGAGGTTGAGGCTGCAGTGAGCCAAG
ATCACACCACTGCGCTCCAGCCTGGCAACCAGAGTAAGATCCTGTCTCAAAACAAACAGA
CAAACAAACAGTAGACCTGGAATTTGGTGCAAGCAGCAGGGCCAGATCCATGCTTGGTCC
TCTCCTCCCAGCATCTCTGTTTTGTCTGGGTCCCTCTGCCAGGAGCTCCCTGGAACCCG
GGAAGGAAGAGAAGCATGCAGACAAGCGTCAGCACCCCCACCCTCCGCTGGCCTTGGGGA
GCAGGTGTCATTAGACGAGGCTCAACTGAAGCCTGCATCTGAAACAGATTCTCATAACTC
AGGCGCTGTGGTAGCCAACCTTCTCTCTACAGTCAATTACGGCCAGCGGGGCCACTGATT
ATTTTTATAGCCTTTCTCTGGAGTCATGACAAGGAAACTAAATGATCCACAGGACCCCTT
TCATCACTAACAGCCGGGTTTCACGGTTGGGGGTGGAGGAAGGAAAGAAAAATCACTTTT
TTCCCCACTTTGAGTTAATCAACAGAACTCAAGTCTGGGCAGCCAATATGTTGGTGTGA
GAAAAGCTGTTCTCAAGCAGAACTAATTGGCAACAGAAATGGAATTTTCTTCCCCACCTC
CCTAAAAACATAAACATGCTTTATCCCAGAGAATTACCCTTCAGAATAGGTATTGCAGA
CGTGTCGTGTGCAGCCGCTGTGCGAGGCTGGTAATCTCACGCCGACCTGGCCAAAGGCT
GCCTGTGCTGGTTACAGCTCAACCAGAGCAGCCTCTTACGCAATACAATGGTCATGAAGG
TCAGTGGCCCAAACCAGCCCAGCCAGACCAGAGTGGACACTTGCTTTCTGATGCCCAGC
ACCTATCTCCTGCTCCTACGAACAGCCTTTGGCTTTTGTGGGTGGGGGGTGGGAGGGC
ACCCTGATTTGCAGGTACAAGTGTGAGTGGCATTGATACCCCTCACTCCAGAGATGAG
CTCTGACAGGCGTAAGCCAAAGAACATATTCCGGGGAAATTTCAAGAAGGGGCATATGAC
CTAACAAGAAACAATAGCTGGCACAGTGGCTCACACCTTAATCCCAGGACTTTGGGGGGC
TAAGGCGGGTGAATCTATTTTCAGCTCAGGAGTTTGAGACCAGCCTGATCAACAAAGTGAG
ACCCAGTCTCTGCAAAAATAAAACTGGCTGGGCGTGGTGGTGCATGCCTGTAGTCCC
AGCTACTTGGGAGGCTGAGATGGGAGGATCTGCTTGAGCCCAGGAGGTGGAGGCTGCAGT
GAGCCAAGATTGCACCACTGCACTCCAGCCTGGGCGACAAAGCCAAACTCTGTCTCAAAA
AAAAAAAAAAAAAAAAAGAAAAGAAAAGAAAAGAAAACAATAAGGCACTAGAAAAAAAAAAACA
TATAATGAGGCTTCTGGAAAAGATAGCTCTTTTTATTTTAGAGAAATTGAGGTTCAAAGA
CGTGATGTAAGTCTCAGAGGTATACAGTGAGGTGGTAGGGGATCCAGGGTTTGAACCCA
AGTCTGTAGGACTGAGGAGTTTGCAACCCTTCACTGCAGGCGCTACTGAAAGGCAGCATA
AACCTTGGACGAAGCCAGAAGAGCTGGATTCAAACCCAGTTCTGCCATTTACTCCCTGTG
TAATTTCAAGGCAAGTCACTTAACCTCTCTGTTCCCTCAGTTTCCATATCTGTAAAGTGGGG
CTTCTAAGGGCACCTCCATTTGCAGGATCTGAGAGGTAAATAATTAACAGCAATATCTGT
AAAGTGCATGCAACAGTGCCTGTACGGACCAAGGATTGCCCCCTTCTCACCACACCGT
TCCCCACACGCGTTGAGAACCAGACCAATAAAAGGAGGTGGAGGGGAGGAAGGAAAAGT
TGATGTTATCAGATCTGTAATCCCTACGCCATGTGTTCTTTCTGTAGCACAGCTGCCAG
GCTTGCTCTCCTGCAGGAGAAGCTGTGCCACAAAGATGTGGGACGTCAAAACACGCAG
CCCATTCAAGGCTTTTGGACATTCCAGCCCCGTCTTGTATGTCAGTCAAGATCTAGGGCA
AATTCCACCCATTCAGGTGGCAAAAAGTAAGATGTTTGACAAATGCCATGTGTAGAGGGT
GGCTTGTGAATTGGTACAACCATTAGAAGATAATTCAGCATACGATTTTCATATTCCAGCA
ATTCTACTTCCAGGTACAACTTGAGACACACTCCTGTATGTGTGCAATAGGACAGTACA
AGAACCTCAAGCAGAACCGTGTATGTAGCAAAACAAACTGACAAATGGAAACAACCCA
CATGGTCATAGACAGGAAAAATAAATGCTGGTATGCCATGGAATAGTACACAGCAGAGAA
AAGTGAATGAACAAGTGATAAGCAATTATATCAACGAATTTTAGCAATAAAATGATTTAT
AAAAATGTAAGTGCAGGGGCTGGGCACCATGGCTCACACCTGTAATCCCAGCCCTTTGGG
ATGCTAAGGCAGGCTGATTGCTTGAGGCCAGGAGTTTGAGGCCAGCCTGGGCAATATGCA
ACATGGCAAAGCCCCGTCTCTACAAAACGTAGCCAAGTGTGGTGGTGCACGCTGTAGT
CCCAGCTACCAGGGAGGCTGAGGTGGGAGGATCACCTGAGCCCAAGAAGTCAAGGCTACA

FIG. 9II

GTGAGCTGAGATTGCACCACTGCACTCCAGCCTGGGTGACAGAGTGAGACCCTGTCTCAA
AATATGTGTGTGTGTGTGTGTGTCTGCATGTATGTGCCAGAAGACAAGATATATCTTTACGT
AAAGTTCAAACAGCAGTAAAAGTAAATGATATATTATTTTGGCATACATGTAAGTGATAA
AACTTTTTTTTTTTTTTGAGACGGAGTTTCGCACTCATCGCCAGGCTGGAGTGACGTGGA
GCAATCTTGGCTCACCGCAACCTCTGCCTGCCATGTTCAAGTAATTCTCCTGCCTCGGCC
TCCCTAGTAGCTGGGTTTACAGGCATGCACCACCACACCTGGCTAATTTTATATTTTATAG
TAGAGACGGGGTTTCTCCATGTTGGTCAGGCTGGTCTCGAACTCCTGACCTCAGGTGATC
TGCCCGCCTTGGCCTCCCAAAGTACTGGGATTACAGGCATGAGCCACCGTGCCTGGTGAT
AAAACATATTTTTTTTAAAGCAAGGGAAATTGAGAAGATGAAAATGTTCTGGAAATGGATGGC
GCTGATAATTGCCCAACATTGTGAATGTGCGTAATGCCGCTGAATTGTACCCTTAAAATG
GCTAAAGTGATAAATTCTATCCACAATTTTTAGAAAGGCAAGGGAAAGCTAAACACAGAA
TTCAAGATAGCAGCTACTACCACAGTGAGAGAGGGAGGGAGGCAAGATGGGAAAAGAGTT
CGGAAGTTGATATAAAATGGTTGTCTGAGTTCAGCACGCAGGTGGGACCATGGGTTTAC
AGGCATTTATCATTTTATAAATAGCTATAAAGAGATTGTTAGATGGAAGTGTAGGTGGGG
CTGTTTCAGGTGCCCTTTCAGTATGTCTATTATGGAATTATGAATCATTCAATCCTACTTAC
TTTTTCTTTTTTTTTTTTTCTTTGAGACGGAGTCTCACTCCATTGGCCAGGTGGAGTGCA
GTGGTGAGATCTCAGCTTGCTGCAACCTCCAGCTCCTGGGTTCAAGTGATTCTTGTGCCT
CAGCCTCCCGAGTAGCTGGGATTACAGGTTTATGTCAACCACACCTGTCTTATTTTTGTAT
TTTTAGTAGAGACGGGCTGTCTCTACTCCTGTTGGTCAGACTGGTATCAAACCTCCTGACT
GCAGGTGATCCACCTGCCTCGGCCCTCCCAAAGTACTGGGATTACAGGTGTGAGCCACCAC
ACCTGGTCAATTCTACTTACTTGAGGTCCATTTTTTAAATTTCTAGAGGAGGCCGGGTGCA
GTGTCTCACACCTCTAATCTCAGAACTTTGGGAGGCCAAGGCAGGTGGATCACCTGAAG
TCAGTAGTTCAAGACCAACGTGGCCAACATAGCAAAACCCTGTCTCTACTAAAAATACAA
AAATTAGTTAAGCGTGGTAGTGTGCACCTATAATCCCAGCTACTCGGGAGGCTGAGGCAG
GAGAATCACCTGAACCCGGGAGGCAGAGGTTGCAGTGAGCCGAGATTACACCATTGTACT
CCATCCTGGGCGACAGTGTGAGGCTCCATCTCAAAAAAAAAAATAAATCCCTACCTTCAG
GAAACTCACATTCCAGCAGGGGACACTTAAGAAAATAAGAATATATATGTATGTTAGATG
ATGAGACGTGTGTGGTAAGGAGAAAAATAAACCAGAAAAGGGATGAAGAAGACCAGGGAG
TGAAGGAAGCTGTAATTTTAAATGGAGAGTCAGGATGGCCTCGCTGCAAAGGTGATGTTT
GTGTAAAGACCTGCGCGATATGAACAAGTGGGCCACTTGGATATCTGAAGAATGAGCACC
CAGGCATAGAGAAAAGCGATTGCAAAGGTCCTGGGGCAGGACTGTGCCCCACCTCAAGAA
CAGCAATTGTGGGGAGTGGGAAGGAGGAGAGATAAGGTTAGAGAGGCCTGGGCCCTGCAG
GCCTTGTGGGCCCTGATGAGGACTTTGCCTGTGCTCTGGGCAAGGTGGGACCAGGGCTGG
AGATAGGAGGTGTCCTGAACAGAGAAGGAAGTGGATCTAATTTTCAATTTTAAACAGGACCT
GCTGGCTGCACACGGAGAGTAGACCAGGAGGGAGGCAAGAGGAGAAGCAGAGACACTGGT
GGGGAGGCAACTGCAATAGCCCAGAGAGAGACACCATGGCCGCTGGGACCAGGGTGGAGG
GAGCGGAGGTGACAGAGCTGTCAGCTTCTGGGTGCAGGTTGACAGGGGAGCCAACGGAAT
TTCTTTTCTGTTCTCTTTGTTTTTGAGACAGCGTCTCATTCTGTCACTCAGGCTGGATT
GCAGTGGCACAAACATGGCTCATTGCAGCTTCAACTTCTGGGCTCAAGTGAGCCTCCTA
CCTCAGTTTTCCCGAGTACCTGGGACCACAGGTGCATGCAACCACACCCAGCTAATTTTTA
AAAATATGTTTGTAGAGACAAAGGTCTTGCTATGTTGACCAGGCTGGTCTTGAACCTCCTG
GTCTCAAGCGATCCTCCTGCCTTGGCCTCCCAAAGTGCTGAGATTGTAGGTGTGAGCCAC
CACGTCCAGTGTAGAATTTCTTTTTTGGCTGGAAAGTGGGAGAGGCTGGGCTCTATTTAAG
TGTTTAAAGGGTCAAGAAAGTTTGAGACCTGGTTATAAAGTAGAGACATGGCCATCCAAAC
TGAGCCCTTCTTGAGAGCTGATGATGGGATAGAATTTTTTTTTTTTTTTTTTTTGGAGATGG
AGTCTTGCTCTATCACCCAGTGCAAGTGGCGGATCTCGGCTCACTGCAACCTCCGCCTCC

FIG. 9JJ

CAAGTTCAAGCGATTCTCCTGCCTCAGCCTCCCGAGTAACTGAGATTACAGGAGCCCCGCC
ACTGCGCCTGGCTAATTTTTTGTATTTTTTAGTAGAGACGGGGTTTCACCATCTTGGCCAGG
CTTGTCTTGAACCTCCTGACCTCGTGATCCACGTGCCTCGGCCTCCCAAAGTGCTGGGATT
ACAGGCATGAGCCACTGCGCCTGGCCTGATGGGATAAAATTTTTTAAAAAATAGGCTGGG
CACGGTGGCCCCACACCTGTAATCCCAGCATTTTGGGAGGCCAAGGTGGGCGGATCACCTG
AGGTCAGGAGTTTGAGACCAGCCTGGCCAACATGGCGAAACCCCCGTCTCTACTAAAAAT
ACAGAAATCAGGCATGGTGGCATGTGCCTGTAATCCTAGCTACTCGGGAGGCTGAGGCAG
GAGAAATTTCTTGAACCTGGGAGGCAGAGGTTGAAGTGAGCAGGATCACGCCACTGCACTC
TAGCCTGGGTGACAGAACGAGACTCTGTCTCAAAAAAAAAAAAAAAAAAACCTCCTCTTCT
AGGACTTCTGTGATGTGGGCATTAAAATGAATGTTTTAGGTCTTCATGGGCTCACATGGA
AAAATGTCCAGGACACCTGTTGGTTGAAAGAAGGAAGATGCAGAATAAAATGTATAGAAT
GATCCCATTTTTTGAATAATAAATTACGTGACAAAGAAAAAAAAATAGGAATGAAGTGAATG
AATGGCCTGAAAGCATAGACGCCTGGCTCTTTCTTTGTTTTTTTTTAAGAAGGAGTCTCGC
TCTGTTGCCCCAGGCTGGAGTGCACTGGCGCAATCTCGGCTCACTGCAAGCTCCGCCTCC
CGGGTTCACGCCATTCTCCTGCCTCAGCCTCCCGAGTGGCTGGGATTACAGGCGCCCACC
ACCATGCCCAGCTAATTTTTTTGTATTTTTTAGTAGAGACGGGGTTTCACTGTGTTAGCCAG
GATGGTCTCGATCTCCTGACCTCGTGATCCACCCGCCTCGGCCTCCCAGAGTGCTGGGAT
TACAGGTGTGAGCCACTGCGCCCGGCCAAGACAACGGGCTCTTAACAGGGGTGGCCCAGG
GTGAGTATAGGAGCTACTGAGGTTTAAACTCAGGCGCGCCCTTCCTACCTCGCAAAACAA
TAAAACACGCATGCTTGGGGCCGGGCATGGTGGTTTCATGCCTGTAATTCAGCACTTTTG
GAGGCCTACGCGGGTAGATCACCTGAGGTCAGGAGTTCGAGACCAGCCTGACCAATATGG
TGAAACCCCATCTCTACTAAAAATACAACAATTAGCCAGGTGTGGTGGTGGGCACCTGTA
GTCCAGCTACTCAGGAGCTCCTGAGACAGGAGAATCACTTGAACCCAGGAGGCGGAGGT
TGCAGTGAGCTGAGATCGCACCACTGCACTCCAGCCTGGGCGACAGAGCGAGACTCTGTT
AAAAAAAAAAAAAAGAAAGAAAGAAAAAAAAAGTGACGTTTTTTTAGTTCTCTTTTAAACT
GCTGTGGGCATGGTTCTCCTCTTGTATTGCAGTTGCGTTTCTCTTAGCTAATGTCCCACC
TGGGCCTTGTCTTGGCCTGGACTATAAGAGAGCGGAACTTGAGAATGAGAAATATTTTC
CTCTCGTGCTTGGCTGGCTTAGGCCCTTAAACTGGAAAGGGCCACCTGGCTCCTAGAGT
TTCTAAAAATAGCAAGCTATCTGAACTTTTCTATAGGTTTGGCTTAGCCGTTTCTCTGA
CTTGTTCCAAGATGCCATTTCTGTTAGGGCATCATTGCTGTGCATGAAAACAAAGGATG
GCAGGAGACAGACTAGAAACGGAAGAGGACTAATCGGGAGCCGCTGCGGACAGAATCCAG
AAATGCCCTGCAATGCAGACACAGTGGACGCAATGGAGAGTGCATACCAGGGCCTGTGT
CGCTGGTGGAGCTGGGGCCACATGCCGCTAGTGTAGACAGGATCTCTACTCCACCCGAT
CTCTCTGCATCCACTCCAGTGCTTCGGGCAAGAGAGAGGAGTTTGGCTGCTGGTTTAAAGT
GAGATGGGGAAATTGAAAGATTTGCATCCAAGGCCCATGCCTGGGGTCTGAATTCCTTTG
GAAGAGGACTGAGGACTGTTTCAGGAGACGATTTTTTGACAATCCAGACACAACCATAGATG
CTGTGGAACCAGTGGTATGCTGGCAAAGGTTTAGCAACCAGCTCTCCAAGGGAAAGTGAG
TGTGTGGTGCACAAGTGTGCATGGGCGAGTACATATATTGCATATCCACACACACATAT
ACTTCGGTTTATTATAAATTGTATTGACGTAGGCTGGGCGCAGTGGCTCGTGCTGTAAT
CCCAACACTTTGGGAGGCTGAGGTAGGTGGATCACTTGAGGTTAGGAGTTCGAGACCAGC
CTGGCCAGCATGGTGAACCCCTGTCTCTGCCAAAAATATAAAAACTAGCCAGGCATGGT
AGCGGGTGCCTGTAATCCTAGCTATTTGGGAAGGTGAGACAGGAGAATTGCTTGAACCTG
GGAGGCGGAAGTTGCAGTGAGCCATGATTACGCCACTGTCCTCCAGCCTAGGCAACAGAG
TGTGACTCCATCTCAAAAAAAAAAAAAAATTGTTTTGATGTAAATGATGTGCAGCACACA
ATTTACAAATAAAAAATAAACTTACAATACCTTTTCTTTTATAAATGTAATATAATCAT
TCACTCACAGGTAGCAGTTTTTGTGATTTTTGCCCCAGCAAATCTGTAATCAACCTAT

FIG. 9KK

GGTTACAATTGATGAAGGAGTGTAATTCTTCAGAAATACCAGTTAATATTTTCCTTTCTA
AAAAATTTCTAATTATTTGTTTATGTATTTTTTATTTTTTTTGAGACAGTGTCTTGCTCTGT
GGCCCAGGCTGGAGTGCAATGGTGAGATCACAGCTCATGGCAGCCTCAACCTCTTGGGCT
CAAGCAATCCTCCCACCTCAGCCTCCTGAGTAGCTAGGACTACAGGCACGCACCACCACA
CTCGGCTAGTTTTTTCTCAAATTATTTGTAGAAATGGGGTCTTGTTATGTTGCCCAGGCT
GGTCTCAAACCTCTTGGGCTCAAATGATCCTCCTGTCTCAGCCTCCCAAATGCTGGAATT
ACATGCATGAGTCACCACACTCAGCCTTGACTACCTTTGTTTTTCATAGAATTTATTGAA
TTGTAAGTTCATATAATTTAATTTTTTAACAATGGTGTGTTTAGCAACCCGTTACCTAAT
TCCTGAAAATCTGACAATCAGCTTTCACAAGCTGGCACAAGCTGCCTCCAGCACACCTCT
GTCTGGGGACAACATGGCAAAGAATATCACCGAACTGAGGAGGAAGCCATTCTCTTCACA
TCTGCCCAGAACCCAGGGTATCTCAAGCACTAAACAGCGGGAAGCTTTGGGAGTTTACAG
AGATGGCACCATGGACGCTGCTGTGCTGGGCAGGGAAGCATCTCCAAATGGCCTCAGAGG
AAAGAGGAAGCAGGAAGGATGAATAAACTAGAGACTGGTTCAAAAGGCACTCGAAATA
CCCCTTTGGAGCTCCCCAGGATGAACTGGGGGACCCTGGGGGGAGCACTGAGGTTCTGAT
GGGGAAAACCTCAGCAACCAGTGGGCATCTGGGCCAAATCACTTAGCACAAACGCTGAGC
CACAAAATCATGATACGCTTTCAACAACCCATTAGGCACCTCAGAAGCTGCAGGGCCATA
GGGTTGTTACAACCGACACCCATGCAGGTGGTACCACAGGCCATCAGTCCTTTTCCCCAA
GTCCACCTTCATTCCCGCCTCCTCCAGTACCATCCTGGACTTCTCTAGGGAAGTGGTGGG
GAGATTTACTCCTCTCCAACTTCTTTTTTTTTTTTTTTTTTTTTTTTGAGACGAAGTCTCG
TTCTGTTGGCCAGGCTGGAGTGCAGTGGCAGCATCTCAGCTCACTGCACCTCTCCCTCCC
CAGTTCAAGTGATTCTCCTGCCTCAGCCTCCCAAGTAGCTGGGACTATAGGCACGCACCA
CCACGGCCAGCTAATTTTTGTATTTTAAATAGAGATGAGGTTTACCATGTTGGCCAGGC
TAGTCTCAAACACCTGACTTCAGGTGATCCGCCTGCCTTGGCCTCTCAAAGTGCTGAGAT
TACAGGCGTGAGCCACCGCGCCAGCCTCACTCCAAACTTGATCTTACTCTCAGACATCT
TACTCTCAGACGCTTAAGTTCTCAGTTCGGAACCTTAAGCGCTCTTCAACCAGACTCATGG
AATCTCAGGGTTGCGGAGAGATTTTAGAGGTTTCTGAAATAGTCCCTTTGTTTTAAAGA
CGAGGAAGCTGAGAGAAGGGAAGTGACTTGCTCAAGGTCACAGAGAAAATCCAGGGTGGA
ACTGGGTAGGGTGACCAATTGTCCAGTTTACCTGGGACTGGGGGGGCTTCTGGACAAGT
TGCTCCCAGATCTGAGACCACAACTCAGGGCTGACTTGTCCCCAAGGTGGGTGGTGGGGG
GTTACAGCCAGTCCCTGAAAGGAAAGGAGGCCTGGATCAGTACAGAGCTGCTTTGGGAT
GGAATTTTCCAAGGGAAGAAAAAGAAAGGCCACATCTGGGTGCTGGGACCTTTCCTC
TGGCCCCGATGCCTGGAACCCCAGGGATTCCCCACCTGCTGTGTGTTTCTGGCCCTTGAG
TGTAACCTGCACCCTCCCTTTCCGTGCCAGGGAGACACGAGCTGACTTTATCTGTCTCTT
ATCTCTTGGCTGCTGCCAGCCACAGCTGCAGGGATATATATGCAAATAGCTTACGATAAT
ATTAATATGTGATTCCCCCAGGGGAGGCATGTGGAAAGCGCTGTATGCGTTTCACAATT
CTGTTTCATCCAAAAACACTGCACGGGCCAGAGTGATTGAAACAGATTTTCTGCAAAG
GCAAAATAAAATTGGAACAAAACCTAGTTGAGGCATATGCCAGTCTCCCTGCCCCAGCT
CTCTCCACCTCTGACATATTAACCTCTTCTCTCATGCCCCAGGAGCCTCCTACGACAA
GGCAGCAAATCTAGGAAATTGCACTGGGCACTCTTCGTTCAAGCCTGGAGCCCCCTGCCCC
ATCCCAGGGCAGCCAGCCTCCACCCTGGGCTGACACATCCTTTAGAGAGTAAAGGCTGC
TTGCCAGTGTCAGCCTGTCACTCCTTCTGTCCACCTCTGCCTCCTTCTGTCAGGTAATG
CTCCATCCATACCTCCTTCTCCTTACCCCTGCTGCTTGGGATAATTGCAGAACCATGGA
GCACAGAATACAGAATACTGGGGGTGTACAGGAGAGTTTAGCCAAAGCAAGTCAGAAAAA
CCTAGGTCTTTTTTTCGTTTCTGCCACTGACCGGCTGTGTGACCTCAGCAAGTCACTTCAC
TTCGCCCAGCTGCTGTTTCTCAGGGTACAATGAGGACACCAATAATACTTACCCTGCAG
GGGGCTTACCGGGATTTCCTCGAGCCGACGCTTCAAAAATGCCTACACAGTGCCTGGCGTA

FIG. 9LL

TAGCAGATACACAAGGAATAGCTGTCATCATGAGAATCTCTTAAAGATCACCTAGTTCAA
CCTACTGTTTTAGAAACGGACAAATGGAGGCCTGCAGAGGGCAAATAACTTGCCTAAGGCC
ACACAGCACGATACCGCCATCCCATCTCAGCCTCAACCCAGGTTCCCTCCTCCGGCCTTG
GGAGCTCCAGGTGGCCTGTGAGGAACGGCTGCCTCCTCCTGTACCCCCAGCTCCAGAAG
TCTGTCCACACAAGGCGGCGTACGGCACACATGGGGAGCAGTCACTTCACACTCACCAT
CGAGCAGGTCTGGACACTCGAGTGCAGTCCCGCCGCCCTCCTTGCAGCTGCCTCACTTTC
CCTATTGCCGCCAGCAAGCGTCTGCTCCCATCTGGCCCGGGACTCCCGGACTCGAGCTAG
GGCTCTGCAAATTCCATCCACACTGGCCACCAGCCGCTGGTCCCGCTCTCTGGGAAGATC
GCCTTGAGGACCTGCTGCGCCCCGAGTCTTCCTTCTGGTGCAGGGAGGCCGGTGCCCTGC
CGGGCTCTGATAATGCAGCCGGGACTCTTATCTGGCCTGTGTGAGGGTGCAGGCGGCCAT
GGAGCTGGGGTTCCAGGAAGCCCTCCTGGGGCCCCCAGCCGGCCCCGCTCCCCCGGAT
GCCGCCTGCTGCTCTGGACGCGGCCGATTGCTTGTGAGTGTCACTCCAGCTCTGCCGGG
GGGAATTCCATGCTGGCCCCCAGCAGGCGGGGGCCCCCACCCTTCACGTCCCACCCCCCA
CTCCCATTTTGGCAAGGGGACTGGGAAAAGGCAGCTAATTTCAAGTCCGCACAGCGTTTG
TGGTCGTGTCTGAATCCTCCACGATTAATCACAGAGCATCTGATTTCTGCTTTGCCTCA
GAGAGGGGCGGAGGGGACGCCTGGAAGTTTCTGTTTACTCCATTCTGCACCAGGCTGCGT
GCTAATCACAAACAGACTGGGACGCAGCCTACCCCTCCTAAACTGCTCTTGGCCACCCCC
TCCCTCCTCCAGCCCTCTCCTTCTCTTCTTACCTTGTCACTTTCCTCCAGCCCCCTTCT
CACTCTTTCTCCTTTCCTTCTTTTCCCTTCCCATCTGTCCGCCTCTTCAGTCCA
GATCTGATCCATTGCACACCCCTTCTTCCGTCTGGGTTTCCCCCAAGCCCCTTTCCCC
CTTTGCGCCTCCCACTTCTCCTAGATTGAGAGTCAGCTTGGTTCTTTCTTTTACATCCAT
TAGTGAGGGTCAGGCTCTTTTGTATGTTTTTTTTTCTTTTGTATAACTTAATTATTTCA
GGGTTCGGGGTGGGCGCTCGCCCCTTGCCAGTCACACTGGTGTGTGTGCGACTCCTACA
AAGTTAACAGTTTCTCCAGGTCAAGGGGTGGGATCCAGGCTTGGTGATGTGCACAATTC
TTTTGTCCACTTGACACATCTCTGCGTCTGATTCTGCTCAGGGACGGACCCAAGAACAA
AGCAGCCATTTACCGCCTCCGGAGGGGAGGCCAGCCCTGTGGCACATCCAGGGCCTTGGA
ACACCTAGAGACAGATTTCTCTCCCTCGCCTTGGCTCCTTTCCACTCTGCAGCTAGTGTG
GAAAAGAAACCAGAAATAAACAGCACCAAAGAACAGGAACGGACACCCCTCCCCATTAAA
GCACACACACAGACTCTGAAGGGTAATTTGGCAAAGACCTCTGAAAACCAGAGATGAGGG
TCTCCTACTACTTATGCCTGTGCACAGGAGACAGGCACAGAGATGCTTGCTGAGAGCTGC
TTATCATAGGAAATGATGGGAAATAACTGAAATGCTCATCCAATAATGACTGCTTGAACA
AGATGTGAAAGATATGGTACATCAGGC

FIG. 9MM

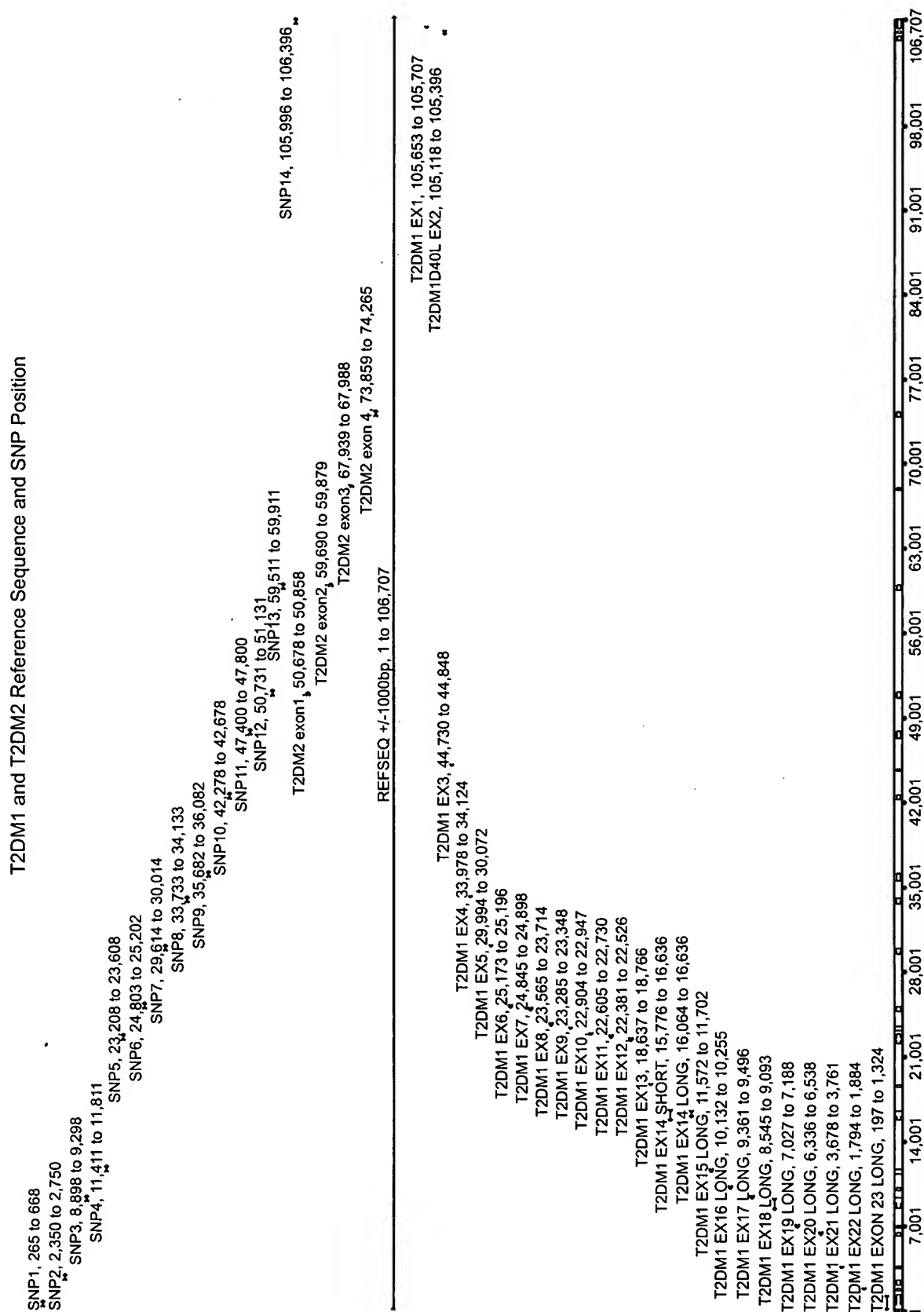


FIG. 10